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Publication date:
1999

Citation for published version (APA):
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WORC Paper 99.05.012/4
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REVISED DRAFT

Theory and Research in European W&O Psychology

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Introduction

The aim of this presentation is to offer a view of current European W&O psychology with respect to theory and research. During the last decades several other authors have given accounts of European W&O psychology, describing the state of the art in different countries (Zamek-Gliszczynska, 1981; (De Wolff et al., 1981), historical developments (Wilpert, 1990; De Keyser, 1997), particular schools or paradigms (e.g. Frese & Zapf, 1994), methodological approaches (Roe & Spaltro, 1989), typical studies and interventions (Koopman-Iwema & Roe, 1984; Schroiff & Debus, 1986; De Witte, 1990; Hosking & Anderson, 1993; Lemoine, 1992; Peiro et al., 1995), regulatory frameworks relevant for W&O psychology (Matefi & Häring, 1993), and areas of professional practice (e.g. Levy-Leboyer, 1994). Most of these publications have juxtaposed different approaches and notions, and tried to identify their common European core. While most of these publications took an internal perspective, making an effort to clarify the changing situation and the newly emerging roles of Europe's W&O psychologists for a European audience, the present paper has a different orientation. It's aim is to draw an image of European W&O psychology that makes sense when looked at from outside, especially from the perspective of North-American scholars involved in work and organizational psychology. My emphasis is on European W&O psychology in its current shape, at the end of the 20th century. I will be brief about history and abstract from most differences. A number of present-day theories and research approaches will be outlined and illustrated with a few examples. Also, a comparison will be made to North-American I/O psychology, and an effort
will be made to explain the differences. Finally, the links between European W&O psychology and North-American I/O psychology will be addressed and the opportunities for future transatlantic cooperation will be discussed.

W&O Psychology

In Europe the field of psychology dedicated to the study of people at work is commonly referred to as W&O psychology. Older terms, like 'occupational psychology' and 'industrial psychology', have faded out and given way to 'W&O psychology'. Within W&O psychology a distinction is made between three areas (Roe et al., 1994; Roe, 1996; ENOP, 1998), which approach people and their work from three perspectives, highlighting different roles and focusing on different facets of activity. These areas are designated as:

- work psychology
- personnel psychology
- organizational psychology.

While not very well known in North-America, work psychology is an very important field of W&O psychology in Europe differ. It concentrates on people’s work activity, i.e. the way in which they deal with their work tasks. Persons are seen as workers who (individually and collectively) perform tasks derived from the production processes taking place in organizations. Important topics of study are: tasks, performance, error, effort, load, and fatigue, but work environment, and the design of tasks, tools, and work time arrangements are also included.

In contrast, personnel psychology deals with the relationship between persons and the organization, in particular the establishment of this relationship, its development, and termination. Persons are seen as individuals who at a certain stage of their career become 'employees' of an organization. Important subjects are choice processes of individuals and organizations, individual abilities and capabilities, needs and need
fulfilment, commitment, methods of selection, career development, appraisal, pay, training, etc.

Different again is the perspective of organizational psychology, which studies the (collective) behaviour of people in relation to the shaping and functioning of socio-technical arrangements designated as organizations. People are involved in this arrangement as 'members'. Important topics of study are communication, decision making, power, leadership, participation, cooperation, and conflict. And so are organizational culture, organizational structure, technology, organizational change, interorganizational relations etc.

I has become customary to consider W&O psychology as a dual science, an explanatory science aiming at understanding existing reality on the one hand, and a technological (or change-oriented) science searching for general knowledge about how reality can be changed on the other hand. For example W&O psychology comprises an (explanatory) theory or human work performance as well as (technological) theories of performance management, and personnel selection. Similarly one finds the theory of learning next to the theory of training, while various theories of organizational behavior are supplemented by theories of organizational design and development.

On the basis of these two distinctions, i.e. between the three areas and the two types of science the field W&O psychology can be described in a systematic and encompassing way. An elaboration of this scheme with respect to the academic curriculum preparing European graduates for W&O psychology has been given by ENOP (1998)\(^1\). Discussions of content matter has been given by Roe (1995b, 1996). The scheme will also be used for a quick characterization of European W&O psychology in a later section of this paper.

\(^1\) The distinction between science and technology is sometimes mistaken for fundamental research vs. application. Both science and technology have their fundamental research, and both can be applied by practitioners to singular problems of people or organizations. Research on principles of selection can be considered as an example of fundamental technological research. The explanation of a particular state of conflict that a client organization is in, a case of organizational diagnosis, represents an example of applied science (Roe, 1990).
Europe

When discussing European W&O psychology we must make clear what we mean by Europe. Taking a purely geographic point of view - see Figure 1 for a map - that is, taking Europe as the part of the Eurasian continent, stretching from the Ural-mountains in the East and the Black Sea in the South to the Atlantic Ocean, is not very useful for our purpose. Since W&O psychology is interwoven with social structure and culture, it makes more sense to consider Europe as a society, or rather a network of interrelated societies, having certain common elements of culture, being tied together by a history of conflict as well as by strong economic and political linkages, and explicitly striving for integration.

Here Figure 1

While this broad conception of Europe comprises all societies found on the geographical territory just outlined, it must be acknowledged that the sense of belongingness and the level of participation in Europe. Many people think in terms of a core and a periphery, which implies that some countries are considered to be more European than others. The center of Europe is often said to lie somewhere in Germany, a country belonging to the core, while the geographical center has been reported to be located in Lithuania, a country of the periphery. It is unavoidably that in our account of European W&O psychology the emphasis will be put on 'core countries' like United Kingdom, Germany, France, the Netherlands. The reason for this is that they have the largest numbers of W&O psychologists and have delivered most contributions to the field. But it must be noted that other countries, including Russia, Poland, Sweden, Switzerland, Spain, Italy, and even the smaller countries have played a significant role as well. For a review of research in Eastern Europe I refer to Roe (1995).
It is important to note that Europe is an emergent society, a moving entity, characterized by a high degree of change (Hamm, 1992). Since the second world war, and especially during the past two decades Europe has transformed and made it look very different from before. Some Americans may still look at Europe as the 'old continent' where people of different breeds and religions, divided by language and local interests, continue to fight each other, but this stereotype is far off the reality. Present-day Europe, certainly its core, is more integrated than ever before, internal borders have been taken down, and forces are joined to achieve competitive advantage on the world stage. It is technologically highly advanced, organized according to non-traditional principles, economically prosperous, and truly democratic. Two main changes have contributed to the emergence of the new Europe, i.e. the growth of the European Community - now called European Union - and the breakdown of the Communist system in Eastern Europe. Due to these changes old governance structures, both in the state and the economy, have been dismantled and replaced by modern forms of administration which combine elements of effectiveness and efficiency on the one hand, with democracy and solidarity on the other hand.

The contrast between the societies of Europe and the United States is considerable. Individualism and liberalism, though of European origin, are less outspoken and counter-balanced by a strong sense of collective responsibility. Competition is substantial and growing, but does not impede cooperation. Governance by market mechanisms supplemented by regulation and clans. In the social sphere Europeans typically take a pluralist stance, that is they acknowledge and accept the existence of multiple nations, social classes, ethnic and religious groups. Although ethnocentrism and hostility are found, the emphasis is on smoothing the interaction between different groups. Furthermore, Europeans accept the authority of the 'state' as a supra-individual entity, whereas in the United States the boundaries and legitimacy of the 'government' seem to be questioned constantly.

Although I will not put much stress on it in this paper, one should be aware of Europe’s cultural plurality. In spite of growing convergence in practices and values, and a greater sense of unity than ever before (e.g. Peiro, 1990), Europe remains a multi-faceted society, populated by people of different nations, breeds, and lan-
It is true that English has de facto become the common language, a lingua franca spoken in all countries, but in everyday life the different languages, that is German, French, Spanish, Italian continue to play an important role. As we will see this also applies to W&O psychology, which would alienate itself from its context if only English would be used.

**W&O psychology in Europe**

While European W&O psychology and North-American I/O psychology have the same roots, they have developed differently from the early years on. Metaphorically one could speak of a tree with two main branches. Before concentrating on the European branch and its ramifications, it is important to stress the rather independent development of theory and methods on the two continents. European W&O psychology has certainly adopted many ideas from the US, especially after the second world-war, put them to tests, and sometimes elaborated upon them. But much research and theoretical work has also been done independently, guided by genuine European problems and ideas. One can identify several schools which have worked within a particular language area, some comprising different countries, and some confined to a single country. A few of these schools will be mentioned below. North-American I/O psychology has developed even more autonomously, it seems. Although some traces of European (especially British) influence can be discerned, research and theorizing have very much centered on America itself. That is, they reflect the patterns of work and organization existing in the United States, and exhibit American thinking about conducting science. Publications by American authors typically contain few (or none) references to research and theory of European origin.

In this respect there is a significant discrepancy between Europe and North-America. The larger take-up of American ideas in Europe may well be a matter of language competency. Much of Europe's heritage in W&O psychology is laid down in languages such as German, French, Russian, that are not mastered by most American readers. But, the readiness to accept foreign ideas may also be different. While Europeans welcome most American models and methods as potential additions to
theory, at least until proved invalid, Americans are more inclined to treat European ideas as culture-bound and put them in the 'overseas' category.

Let me now present some cases of theorizing and research, that exemplify some less-well known parts of European W&O psychology. Using the scheme presented in the introduction (see Table 1) I will first mention some topics that have been the subject of theoretical work (explanatory theory), and a number of intervention methods (technology) for the three fields of work, personnel and organizational psychology. Some topics cutting through the three areas have been included as well. I will select a number of the research topics and discuss them in more detail. For more extensive information on European theory and research I refer to such sources as: Drenth et al. (1998), Koopman-Iwema & Roe (1984), Schroiff & Debus (1986), De Witte (1990), Hosking & Anderson (1993), Lemoine (1992), Peiro et al. (1995), and Roe (1995a).

Here Table 1

**Work psychology**

Perhaps the most significant European contributions to W&O psychology are in the domain of work psychology. I would like to concentrate on action theory, currently also known as 'action regulation theory', which has become known throughout Europe by the publications of Hacker (1979, 1986) and his associates at the Technical University of Dresden. This is a broad theory that starts from the postulate of the goal-directedness of work behavior and self-regulation, and explicitly links behavior to working conditions and organizational structures. The theory structures much of our current knowledge about human behavior at work into a well-integrated framework, and provides an excellent basis for a wide range of applications. Because of its great importance, I will described the main tenets of the theory in some detail. Action theory may be called a European theory. Its roots are German (Lewin), Russian (Leontiev, Luria, Vygotski, Rubinstein), and Polish (Tomaszewski) but it also incorporates ideas from other European countries as well as from United States.
(Newell & Simon; Miller, Galanter & Pribram). It has been elaborated by groups of researchers in Germany, Switzerland, France and the Netherlands. The theory posits that people’s behavior at work is goal-directed, and that it is controlled by means of cognitive representations. Several cognitive representations are distinguished, including mental models of the goal, the objects and the tools, and the action plan. A key assumption of the theory is that people do not perform work tasks as they are given, but tasks as understood and redefined by themselves. Thus, a distinction is made between the objective task, or 'task-as-given' (German: Auftrag) and the subjective task set by the worker him/herself, or task-as-taken (German: Aufgabe). This distinction has also been made by Hackman (1969).

Here Figure 2

There are two main models of action regulation: one depicting it as a series of sequential and iterating stages, and one displaying the information processing architecture involved (see Roe & Zijlstra, 1991; Frese & Zapf, 1994). The stage-model distinguishes between two phases, i.e. action preparation and action execution (see Figure 2). Action preparation comprises five stages, i.e. orientation on the task and the environment, analysis and planning, evaluation of alternative plans and choice of an action plan. The phase of action execution proceeds recursively. The action plan is broken down into parts and transformed into instructions for performance, executed one by one, until the endpoint is reached and the goal is achieved. This is a cognitively controlled process guided by the action plan.

Here Figure 3

The information processing model (Hacker, 1986; also Rasmussen, 1983, 1986; see Figure 3) depicts the various cognitive processes involved in action execution. It
comprises three levels of processing, called 'levels of regulation', i.e. (1) an intellectual level on which the work situation and the goal are analyzed, a plan is designed, and the plan is executed under conscious control, in discrete sequential steps, supported by knowledge and symbols; (2) a perceptive-conceptual level at which an action plan is recalled from memory and executed by means of learned operation sequences, guided by signals with a known meaning; (3) sensori-motor level, at which the action plan has the character of a motor scheme and is executed automatically, guided by stimuli and controlled by proprioceptive and exteroceptive feedback.

Action theory depicts work as intentional activity, which finds its origin in the motivation to reach a personal goal, and is guided by what people think. It assumes that people are proactive, follow their own strategies in countering the situation, and regulate themselves. It emphasizes that people can approach the same objective task in different ways, depending on how they define their subjective task, but also on their familiarity with the task, their knowledge and skill, and several other factors. The theory also addresses the energetic side of work, that is the mental and physical load posed by the activity, as well as consequences such as boredom, fatigue and stress. More generally it assumes that activity does not only transform the environment but also the person him/herself. Facets of the work process such as the completeness of the preparation - execution cycle, and the intellectual demands posed are said to affect competencies and even personality characteristics. It is for this reason that work situations and organizations should meet certain criteria.

In all these respects it differs from the mechanistic S-O-R model found in American psychology. A crucial assumption is that people do not merely respond to task stimuli, but are actors in control of their own behavior. By means of their strategy they can control performance aspects such as quantity, speed and errors, but also their workload, and indirectly their fatigue, boredom and stress. Most remarkable about the theory is that it integrates many bits of theory that are treated separately in anglosaxon psychology.

By establishing a link between the organization of work and working conditions on the one hand, and the way in which people act and are influenced on the other hand,
action theory has offered a powerful paradigm for the study of work behavior. Many research studies have been undertaken with regard to work strategies, performance effectiveness, work load, work stress, and competence development. Action theory has resulted in the development of many refined instruments for the analysis of work activity and work demands, as well as for the measurement of workload and outcomes such as fatigue, boredom, satiation, and work stress. Moreover, it has inspired to the development of methods for assessing the quality of jobs and intervention techniques for job re-design by experts and workers. Among the more recent research is a study of interruptions.

As action theory has mainly been developed and investigated by German-speaking researchers. Therefore most of the publications are written in German. Unfortunately English language publications are rare. The major recent publication is a chapter by Frese and Zapf (1994).

There are a number of European schools which relate to action theory because they use similar assumptions and concepts. Since Hacker built upon the ideas of Russian theorists, it is no surprise to find some similarity with work done in Russia. An interesting example is research on 'human functional states', that is patterns of psycho-physiological state affecting people's capacity to perform (Leonova, 1994). Research has identified several states (e.g. boredom, satiation, fatigue) and shown that they evoked by performing work tasks under certain circumstances. Similar in its approach is the study of mental work load. It has been shown that people do not respond passively to changes in their state and work load, but respond actively by changing their work strategy (Zijlstra et al., 1990). A well-known study has been done by Sperandio (1977) on the change in work strategy among air-traffic controllers when they are exposed to higher levels of task load. A major theoretical contribution has been delivered by Hockey (1986) with his state-control theory. Somewhat similar in outlook is the work by Meijman (1991) on peoples responses to fatigue. The general idea is that workers use strategies to regulate their activity with respect to the performance outcomes and with respect to their personal outcomes at the same time. Strategies are the major instrument to cope with the demands of the work and to regulate one's own state.
French-speaking work psychologists, building on the work of Faverge (1972) from Brussels, but influenced by Russian and German ideas, have engaged in a similar line of research, concentrating on human error and the role of mental models in activity. Typical for this school is the emphasis on extensive analyses of work activity in real-life settings. Unique for the French approach is the analysis of the social interaction and verbal communication during task performance. The underlying idea is that actions are not just expressions of private purposes, but have a social meaning that is communicated, and is part of a socially constructed reality (Thereau, 1992; Borzeix & LaCoste, 1991). An interesting elaboration of the French approach to work activity is the study of 'instrumented action', that is activity carried out by means of instruments based on the notion of psychological tools by Vygotski (Rabardel, 1995). The notion of 'instrument' is extended from a piece of technical equipment to a material or symbolic artifact and a scheme of utilization, explicitly designed or developed in practice. Schemes of utilization can be many. Apart from schemes of use (what to do with the tool) there are schemes of instrumented action, and schemes of collective instrumented action. Rabardel conception of instrument adds a psychological dimension to study the processes of technological change, and allows an in-depth analysis of the structuring effects that instruments have on people's behavior and interaction at work. Dutch researchers, departing from Hacker's theory, have developed a method for the evaluation and improvement of computer tools, the so-called action facilitation approach (Roe, 1988; Arnold & Roe, 1989). It represents the opposite pole of the work on action regulation hindrances done by Leitner et al. (1987) in Germany.

There are some distinct areas of study in work psychology which are touched upon by action theory but have developed more or less independently. These are the areas of worker well-being and occupational health, and human error and reliability. Quality of work life and occupational health have been major topics in Scandinavian W&O psychology. Series of studies conducted by university departments and research institutes in Sweden, Norway and Finland, have lead to a profound understanding of the environmental stressors and risks. Empirical evidence has shown that workers' health is not only affected by physical conditions, but by social and organizational factors as well (Gardell, 1987). In a unique type of research Swedish investigators have demonstrated that the division of work tasks in organizational setting as well as
in the family does not only have an influence at the subjective and behavioral level, but at the physiological level (i.e. cardiac performance, hormone secretion) as well (Johnson & Johansson, 1991). A critical factor has been shown to be the amount of control workers have to influence the conditions under which they work. This links in very well with the research evidence on the regulative function of work strategies, collected by action theoretic researchers. The potential effects of strategies can only be realized when the organization and the physical environment offer sufficient opportunity to one’s way of working. This research, which supports the main conclusions from the well-known research by Karasek & Theorell (1990) in the USA, has been of great importance in the introduction of new organizational structures in the 1970s and 1980s.

*Human error and reliability* have received great attention from researchers in Britain, Denmark, France, and Germany. The focus has been more on the definition of errors, the processes resulting in errors, and the psychological and environmental determinants of errors, than on the estimation of reliability as such (Rasmussen, 1987). It has been shown that errors can only be understood if the structure of activity is taken into account and if the mental representations involved in activity regulation are analyzed (Rasmussen, Duncan & Leplat, 1987; Reason, 1990). This has been made apparent in a critical article by Bainbridge (1987), titled 'the ironies of automation', in which she explains why further automation, specially supervisory control, reduces the capacities of operators to control technical systems when needed, and make the overall operation more sensitive to errors. Many studies have demonstrated that cognitive factors, such as causal schemes and expectations play an important role. After all, they play a key role in the actions taken by the human operator. Studying errors through activity provides a fruitful way to identify environmental factors contributing to errors. It has shed new light on fault diagnosis and recovery in technical systems (Goodstein, Andersen & Olsen, 1988). Research on cognitive ergonomics has lead to a large number of methods for improving the dependability and safety of systems. Attention has also been paid to error handling, that is the way in which people perceive, interpret and respond to errors (Zapf & Reason, 1994). A remarkable finding (Frese et al., 1991) has been that making errors has a strong learning effect, a reason to avoid too rigorous prevention.
In the field of personnel psychology, an area very well covered by North-American psychologists, European W&O psychology has not produced a single theory which is broadly accepted and investigated. Yet, one can discern a bundle of notions and models, all relating to the relationship between the employee and the organization, which center around the same basic premises. The first premise is that the individual worker is an autonomous being, in control of his/her own life and work career. The second that individuals who take the role of applicant or employee, together with those recruiting or employing them are members of the same community. This implies, that whatever form the interaction between the individual and the organization takes, it has to be based on mutual respect and responsibility.

There are different lines of research and theorizing exhibiting these ideas. First of all, there is a considerable body of literature on the role of the applicant in personnel selection (Herriot, 1989a,b). Several empirical studies have been done on the recruitment and selection process as seen from the applicant’s perspective. This research has examined how people undergo various recruitment and selection procedures, and has identified practices which have an unfavourable effect on the applicant, adversely affect the recruitment process, and may damage employee-organization relationships once established (e.g. De Witte et al., 1994). Some authors have argued against the traditional one-sided approach to personnel selection, in which the organization hires-or-rejects without consideration of the candidate’s interests. Acknowledging that today’s candidate may be tomorrow’s manager, they have, instead, plead for a two-sided approach which incorporates the choices to be made by the individual and by the hiring organization (e.g. De Wolff & Van den Bosch, 1998), based on ideas by Lofquist & Davis (1969). These ideas, idealistic as they may seem, are finding growing application in the activities of professional intermediaries, who play a dominant role at the European scene. Very similar is the concept of outplacement, which has found widespread application in Europe, since the waves of restructuring and downsizing started in the mid seventies. There has also been much theorizing about the ethical dimensions of recruitment and selection.
Authors have engaged in philosophical analyses and formulated principles for guiding the interaction between individuals and organizations in recruitment and selection. They includes applicant rights of information, non-intrusion of privacy, confidentiality, and fair treatment (Jansen, 1979). Other principles include the obligation of organizations to provide opportunities for complaints, justification of procedures, and non-discrimination (Roe, 1983). The topic of discrimination has received very limited research attention, in no way comparable to that in the United States. This does not mean that discrimination is considered unimportant, but rather that it is not perceived as a problem as pervasive as in the United States. Descriptive research on selection practices has shown how companies and consulting agencies proceed when recruiting and selecting employees (e.g. Altink et al., 1991; Prieto et al., 1991). Some of these studies have compared different European countries (Shakleton & Newell, 1991; Smith, 1991; Levy-Leboyer, 1994) and have noted certain differences. These studies have made clear that Europe does not follow the strict approach of psychometric testing, known so well from the United States. Even though tests play an important role, and the assessment center and situational tests have gained growing acceptance, interviews and other methods are still often used.

Publications on recruitment and selection are mostly of a technological nature. The emphasis is on the methods of selection (Herriot, 1989b; Cook, 1988; Smith & Robertson, 1989). However, the attention is not limited to the tests and prediction, but also covers ethical, organizational, economic, and legal aspects, and includes the perspectives of both the employer and the candidate (Levy-Leboyer, 1994; Dachler, 1989; Boerlijst & Meisboom, 1989). A broadened approach to selection is the 'selection-by-design' approach (Roe, 1989) which develops selection procedures on the basis of a program-of-requirements defined by multiple-stakeholder.

A second important area of activity is that of career behavior. The basic issue addressed is how people define their career and their successive relationships to different organizations in a time when organizations no longer offer life long employment and predictable career opportunities. Although this subject is studied all over the western world, it has received special attention in the UK (Herriot, 1992; Herriot & Pemberton, 1992) and the Netherlands. An important topic of study is the
psychological contract (Schalk & Freese, 1997). Various studies confirm that peoples psychological contract, that is their expectations of what employers will offer and what to give in return, are changing. Time is an important dimension in this context, as appears from studies on differences between part-time and full-time employees, and between workers with a stable and a flexible contract. Although much research remains to be done, it seems that organizational changes are a major cause of psychological contracts being broken or revised. Another outcome of research on careers, mainly conducted in the United Kingdom, is a model of career transitions developed by Nicholson (1990; 1994) at the University of Sheffield. The model has been used to predict outcomes of career transitions, to describe the transition process, and to develop a taxonomy of career types. The model comprises four stages, i.e. preparation, encounter, adjustment and stabilization, which are passed through many times during a persons career (see Figure 4). Each of the stages poses its own tasks and demands, and can be passed more or less successfully. The model has been shown to be a useful tool to organize research findings, to analyze career patterns and to support self-appraisal and career-management. Linked to the career-transition model is a multi-dimensional scheme, that allows a refined profiling of career patterns. Table 2 summarizes the nine dimensions of this scheme.

Somewhat related is research and theorizing on the socialization into work of young people, who are often offered poor entry jobs, and unclear perspectives for the future, in spite of high levels of education. Of special interest are the studies done by an international research group with mainly European participants, labelled as 'work socialization of youth' (Feij, 1998). Two main questions have been addressed, i.e. how are ideas about work of young people influenced by their first employment experiences, and what determines the way in which they develop their work roles.
Claes & Ruiz-Guintanilla (1994) have reported on stability and change of work meanings during early employment, while Fey et al. (1995) have published a model which shows the influence of environmental and personal factors on discrepancies between expectations and actual demands, as well as the effects of such discrepancies on various coping styles. The focus is on discrepancies with regard to skills and abilities, motivation and social behavior, and on coping strategies such as putting in more effort, innovating work content, and career enhancement.

When it comes to the implications of new career concepts for human resource management, two key notions stand out, i.e. competencies and employability. The underlying idea, that people are responsible for their own career, fits very well in the European way of thinking, and the notion of competencies has been used for longer time, especially in connection with action theory. The French government has introduced a rule obliging all enterprises to provide their employees with a free appraisal of their competencies ('bilan de compétences') every five years (Levy-Leboyer, 1993). Yet, the notions of competence and employability carry a broad range of meanings, which calls for a need to define and operationalize them unequivocally. Several recent publications are dealing with these basic issues. It may take longer before consensus will be achieved and conclusions can be drawn about what individual people and firms can do to enhance employability and strengthen competencies. The same is true for their predictive value in the context of career behavior.

A third area of research is job loss and unemployment. As downsizing, firm closures and major restructurings became more prevalent during the 1980s, a small network of researchers from the United Kingdom, the Netherlands and Israel started to conceptualize and study the effects of job insecurity on individuals and organizations. Some of the results are summarized by Hartley et al. (1991). First of all they note that job insecurity is a distinct social psychological phenomenon that differs from work stress and job loss. It is different in content, antecedents and consequences. Important influencing factors the likelihood and the severity of job loss as assessed by the person. Both lead to a decline of well-being and to certain responses, including avoidance and individual or collective action. The negative influence on people
carries the risk of lower job involvement and commitment, a drop of effort an a
greater tendency to leave, and this can produce a destructive spiral, as is known from
research in the United States. Important topic considered in this research are therefore
the relationship between management and workers, and between managers and unions
during organizational decline, as well as a serious assessment of unwanted negative
effects of downsizing and restructuring policies.

Other studies have considered the effects of unemployment on mental health and
daily activities, and the coping strategies people follow. An interesting approach has
been taken by Baubion-Broye et al (1989), who has applied a model developed by
Curie et al. in France. According to this model the daily of activities of a person, that
is work, family life and participation in society, constitute a system (système des
activités), using the same resources and providing spill-over effects. The model is
based on action theoretic principles, and describes the regulation of the three
subsystems separately as well as in their interdependence, using the concept of
action models’ (modèles d’action). A superordinate ’model of life’ (modèle de vie)
is postulated to control the overall functioning of the system. The study shows the
disturbing effects of unemployment in the three life domains in terms of the model.

Well-known is the research on the mental health implications of unemployment
carried out in the United Kingdom by Fryer and Payne (1986) and Warr et al. (Warr,
1987; Warr et al., 1988), as well as in Holland by Schaufeli (1988). Unemployment
was shown to raise psychological strain levels considerably, while re-employment
lead to quick recovery. The differential impact of age, gender and social class was
also investigated. Generally speaking, unemployment lowers self-esteem, and morale,
increases anxiety and depression, and leads to dissatisfaction with oneself and society,
etc. Support was found for the earlier phasic model, proposed back in the 30’s by
Jahoda. Warr (1986) developed his so-called vitamin model to explain mental health
impacts of both work and unemployment. According to this model there are nine job
characteristics which act like vitamins, that is, if lacking people get ill, but above a
certain level they don’t add to their health or even harm it. Research has shown that
three job characteristics act like vitamins C and E: the more the better, while six act
like vitamins A and D: they are harmful in larger dose. Table 2 classifies the nine
characteristics. According to Warr the explanation for the negative mental health effects of unemployment is basically a deficiency of work vitamins.

Here Table 2

A fourth area of research is that of work and personality. Two features stand out as typically European, i.e. the interactionist model and reciprocal causality. A commonly made assumption is that people's behavior in work situations depends on the joint effect of personality and situational factors (Lanterman, 1979; Magnussen, 1976; 1980). Some theoretists (e.g. Hettema, 1979) have taken an transactional position, and assumed that people exert an influence on the situation they are in. This fits in with the view that people are to a certain extent autonomous and able to exert control over their environment. There is empirical evidence in favour of this type of theory, showing that individual differences are linked to people's preferences for situations as well as responses to situations they are in. On the opposite side it has been postulated that people's work experiences can influence their personality (see also action theory). Although the evidence is limited and research designs are plagued with difficulties, some influence of work on personality seems likely (e.g. Hoff, 1986). Adding these points up, it seems that personality is not just a predictor of work behavior, but part of an interactive process in which situation and personality mutually affect each other, mediated by behavior (Furnham, 1992; Hoff, Lappe & Lempert, 1985). To the degree that people can select occupations matching their preferences and situations are favourable, that is to the degree that a high person-environment fit would be achieved, predictive validity for criteria of long-term career success could be explained.

Organizational psychology

Prominent in European thinking about organizations is the notions of collectivity. Although modern philosophy has brought the individual to the foreground, people’s
place in the community and membership of social categories has always remained important. Another important idea is that of self-determination. All people involved in an organization are considered as having at least some freedom to exert an influence on their environment. European sociologists have therefore conceived organizations as *structures emerging* from collective action. The interaction of opposing groups, engaged in a ongoing struggle for influence, has been seen as the origin of organizational stability and change. European views on organizational theory have, for that reason, been rather political. Some organizational psychologists have taken a similar stance. E.g. Hosking & Morley (1991) have proposed a 'social psychology of organizations' which centers around the notion of 'organizing processes'. Rejecting an entitative approach, in which organizations and people exist independent of each other, they stress the fact that people shape organizations and are at the same time constrained by them. Like in American organizational psychology of recent date, the focus is on sense making and influencing.

*Groups*, as the smallest entity in society, have been seen as a natural environment for people to live in, a bounded social space providing comfort and identity, and at the same time as an entity that by properly distributing and combining tasks can perform more effectively than individuals. The study of groups in organizational settings has a long history. Back in the 1920's German psychologists, i.e. Lang and Hellpach, did experiments with groupwise production, and found that they were not only quality enhancing and cost reducing, but also promoting employee competence and participation (Wilpert, 1990; p.9). Their work demonstrated that the groups' self-sufficiency contributed to these positive outcomes. The well-known studies of the Tavistock institute in England and the experiments done in Scandinavia and the Netherlands in later years, lead to the similar conclusions. Thus, semi-autonomous work groups became known as an effective and socially preferable form of organization, a viable alternative to Taylorism (Herbst, 1962). The interest of European W&O psychologists in groups has remained vivid, but with the growing acceptance of group work, the focus has shifted to external and internal factors influencing the group process and the outcomes it produces. Research in the UK has searched for the determinants of group innovativeness and effectiveness (West, 1996). One of the key factors identified is: reflexivity, the preparedness of groups to reflect upon and appropriately
modify task related strategies and social relationships. The work on teams has very much become part of an international line of research that has no longer a distinct European character.

The study of groups is closely related to the study of leadership. Since the essence of leadership lies in the influence exerted on the group, leadership functions can be fulfilled by group members, and leaders are influenced by their subordinates, it would make sense to consider leadership as a facet of group activity rather than as a separate phenomenon. Although, researchers have been reluctant to merge leadership and group processes, there has been a growing attention for the interaction between leaders and groups, as well as for leadership in self-managing teams. Leader-group interactions have been studied from the perspective of the construction of meaning (Czarniawska-Joerges & Joerges, 1990).

Research on leadership in self-managing teams (Tjosvold, 1991) has relied on the work by Manz & Sims (1984) and looked at self-chosen team leader versus the appointed leader, or coordinator. While coordinators should lead the team in such a way that it can lead itself, the expectations about what they should do are contradictory. From the team perspective it is to facilitate the groups self-observation, self-goal-setting, self-evaluation and self-reward. Studies in the Netherlands (Vogelaar, 1998) have looked into the leadership roles that are needed when work groups develop into self-managing teams. The results can be described in two ways. First, transactional leadership is needed in the earlier phases of development, while transformational leadership is required at the very start and later in the process, as the group becomes more independent. Secondly, democratic rather than autocratic leadership is required (Van der Vlist, 1991), but as Stewart & Manz (1995) has noted democratic leadership should turn from active to passive, to stimulate the teams autonomous activity. The question what leaders should do in order to make groups function well has been studied from the subordinate's perspective by De Vries (1997). He has concentrated on 'need for leadership', that is what subordinates think leaders can contribute to what they can do themselves.
Smith & Peterson (1988) have introduced an alternative to the use of leadership questionnaires, asking managers to indicate how they would respond to a series of events, that is on which sources they would rely: formal rules, unwritten rules, specialists, subordinates, colleagues, boss, own experience and widespread beliefs. These eight event management preferences make up a profile that can be used to characterize leadership in a non trait-like way. Research has shown the usefulness of this method in a cross-cultural context, by demonstrating differences between managers from Europe and other countries, as well as between northern and southern countries in Europe (Smith, 1997).

Another important topic, which carries some relationship with group work, is industrial democracy. As a consequence of political reform and continuous pressures from socialist parties and labour unions, there has been a great interest in industrial democracy throughout the 20th century. The various kinds of worker co-determination and consultation have drawn considerable attention from European social scientists, including psychologists. Unlike in the United States were worker participation has been approached from an instrumental point of view (Coch & French, 1954), participation was mostly seen a matter of ethical or political necessity for which the proper form had to be found. In many countries works councils and other participative structures were codified by law, or agreed upon by managers and unions. An interesting historical example, showing the influence of the trade unions, is the "l' Ambiente di Laboro" movement in Italy, which for years gave groups of workers control over their work environment, until it was ended during the Oil Crisis of 1973. Of course, issues of efficiency have been considered as well, but the emphasis has been on the conditions under which workers can effectively participate in decision making at different levels in the organization. A comparative research project, known as IDE (industrial democracy in Europe), has yielded insights in the forms democracy can take and in factors promoting their occurrence and effectiveness. One of the conclusions of the research is that a formal system of rules on participation, or 'participative structure, is important for the extent and level of participation. But considerable national differences were found in the extent of participation given to employees at distinct hierarchical levels. Over a 10 year period the importance of participative structure for the extent of participation seemed to
diminish. A study by Heller et al (Heller et al., 1988; Drenth & Koopman, 1992) in British, Dutch and Yugoslav companies produced similar results and showed the positive effects of participation on criteria such as skill utilization, satisfaction and efficiency. While employee influence in European organizations is rather high, compared to North-America and Japan, the feeling remains that its potential has not been fully utilized yet.

What had been known since the days of Taylor, but became crystal-clear from the studies on alternate forms of organizations carried out by the Tavistock-institute and other research centres, was that the technological structure and the social structure of the industrial organization were closely interlinked. In many cases the properties of the technical production system as designed by engineers limited the room for creating a suitable social organization. The result was the idea that organizations should be designed as sociotechnical systems, that is the social and technical system should be designed simultaneously as to optimize their overall effectiveness. The principles of sociotechnical systems design has found wide-scale acceptance in the United Kingdom, Norway, Sweden, the Netherlands and Germany. Several researchers have been involved in experiments in which notions from socio-technics have been implemented and tested. After the well-known projects by Volvo and Saab in which new plants for automobile manufacturing were established with a technology designed to support group work, hundreds of other experiments followed. Building the organization around semi-autonomous groups is only one idea. Several methods of analysis and recommendations for design were developed. Later elaborations (De Sitter, 1989) emphasized the match between control requirements of the task and the control capacity of workers as provided by the technology. Sociotechnics has found application in different schools, including an engineering school focusing on design by experts, and a school concentrating on organizational change. The latter is based on the methodology of action-research, and relies heavily on the active participation of workers and managers of the firm under study.

Speaking about organizational change more generally, it must be noted that European W&O psychology tends to prefer participative approaches to change over expert approaches. This has much to do with the prevailing (theory Y-like) view of people,
mentioned above. If all people in the organization are considered as stakeholder and as local experts, having at least 'tacit knowledge' about their work, it is much better to involve them in defining the starting point, the routes and the aims of organizational change, since that enhances the changes for finding good solutions and for successfully implementing these solutions. Another reason may be that participative methods are more effective in social settings characterized by great heterogeneity, as exist throughout Europe. They offer a direct opportunity for expressing cultural differences between various members and groups within the organization.

The latter points at another important feature of European W&O psychology, i.e. the reluctance to rely exclusively on formal attributes of work and organizations and the inclination to consider meanings people assign to the situations they find themselves in. Research on social interaction and decision making in organizations done in France by Boltanski and Thèvenot provides an interesting illustration of the study of meaning (Boltanski, 1990; Boltanski & Thèvenot, 1991). The main premise is that people in organizations base their actions on particular sets of rules, called 'action logics' or 'action models ('regimes d'action'). When facing criticism or anticipating to it, managers follow the 'logic of justification'. Before they decide in favour or against a proposal they check several principles which might (or might not) justify their decision. Six principles have been established empirically. These principles are inspiration (whether the proposal is novel, creative), domestic (whether it fits the tradition, is good for existing social relationships), reputation (whether it would meet broad support), civic (whether it is in the general interest), market (whether it is wise considering supply and demand), and industrial (whether it contributes to productivity, efficiency etc.). Boltanski and others have pointed at a variety of other models governing organizational behavior. According to the 'model of correctness' (regime de justesse) people should follow routines, procedures, rules. It applies to much of everyday organizational life. The 'model of violence' (regime de violence) incites to opposition, breaking negotiations, calling strikes. The 'model of love' (regime de l'agapè) calls for compassion, sympathy with the subordinate or a client, considering the other as a human being in need of help. It may make people ignore their role and violate organizational norms for a higher sake. The 'model of familiarity' (regime de familiarité) applies when people emphasise contacts to those with whom they have
friendship ties outside the organization. Finally, the 'model of tactics & strategy' (regime tactique-stratégique) calls for a business-like approach to organizational behavior which includes tactics and strategies. Boltanski and Thèvenot's work fits well in the French school of organizational sociology established by Crozier and Friedberg. The latter action logic, well advertised among top-managers, may be dominant in many organizations, the actual course of affairs is much more determined by a mixture of various action logics, brought to bear by various groups of actors in the organization. This can explain why organizations often seem to act irrationally, and why decisions seem to follow a 'garbage can' model.

Somewhat related is the school of social constructionism, the basic tenet of which is that of the 'social construction of reality' in organizations. While also known in the United States, particularly by the work of Weick (1990), much of the theorizing about social construction in organizational contexts has been done by Europeans. A group of European researchers (Standing Conference on Organizational Symbolism, European Group of Organization Studies) has engaged in a study of organizational symbols and artifacts, exploring the dialectic interaction between artifacts as designed and as getting their meaning in use (Gagliardi, 1992). Within this perspective Czarniavska-Joerges (1992; also Czarniavska-Joerges & Joerges, 1990) analyzes the role of linguistic artifacts in organizational life, i.e. labels, metaphors and platitudes. Social constructionist studies do not always possess the clarity one would need, but yet they address issues of importance for understanding behavior in organizations. Like in North-America the approach has not remained undisputed. A major problem of social constructionism in its radical form is that its claims are easily overstated and presented in a way that cannot be falsified. The use of casuistic and interpretative methods is also problematic.

The collective dimension of cognition has also been studied from a more empirical perspective, by the French action theory school. It has pointed at the existence of invalid models and discrepant mental models as a source of misunderstanding and human error. The study of communication in connection to mental models of the organization has become an important issue in recent years, especially in connection
with the functioning of temporary and network organizations (Rogalski, 1995; Samurcay & Delsart, 1994).

**Broad topics**

There are a number of broader topics, derived from significant societal trends, which span the whole scope of W&O psychology. Among them are: new technology, system safety, and economic transition. I will mention these topics only briefly.

Many facets of *new technology* have been investigated by European researchers over the years (Roe, 1988). Initially the research concentrated on the effects of the use of computers in industry, and the problems associated with their introduction. European researchers, especially those from the sociotechnical school, were fast in criticizing the notion of 'technological imperative' or 'technological determinism', and in introducing the principles of 'human-choice' and user participation. A great number of case studies, some of them well-controlled, evaluated and compared the success and failure of various approaches with respect to subjective outcomes such as satisfaction and stress as well as organizational effectiveness. Later the shifted emphasis towards the design of systems and several methods and techniques for systems design and systems development were developed. An example is the ETHICS-method by Mumford (1983). What happened at the organizational level with the introduction of information systems and advance manufacturing systems was paralleled by similar studies at the level of computer software and the human-computer interface. European action theory and cognitive ergonomics have appeared to be very fruitful approaches to this domain. More recent research has dealt with the wider organizational implications of network technologies and telematics (Andriessen & Roe, 1994), as well as with 'telework' (Van der Wielen & Jackson, 1998).

The research on *system safety* has emerged out of the field of human error and reliability mentioned above. After various major catastrophes in industry and transportation, like Bohpal, Cernobyl, Oostende, attention has moved away from individually centered approaches and moved towards the system level. A network of
researchers concentrating on high risk-high hazard systems, has studied psychological, social, organizational, technological, and cultural factors involved in safety. Their analyses of accidents revealed that many factors beyond individual human error play a role in the process that leads to accidents. One of them is 'safety culture' (Munipov, 1991; INSAG, 1991). Much effort has been spent on the interdisciplinary integration of safety theories. Current models treat organizations as complex systems and cover large parts of the system’s life cycle. According to current views safety is conceived as undesired states of a system produced by the interaction of technological, social, legal, economic, organizational and human factors. The prevention of errors (and accidents) has expanded to systems interventions, comprising several levels.

A final topic is the *economic and social transformation* of Eastern-Europe. This research began when the Communist regimes in Russia and its satellite states started to breakdown, and dealt with issues such as job insecurity and unemployment, quality of working life, organizational change, privatization, managerial decision making, and entrepreneurship. The research has shown that considerable cultural differences existed between the former Communist systems and that they have a great impact on organizational processes (see e.g. Zinovieva et al., 1998). A review of the literature on the implications of the changes with regard to work and organization and discusses their consequences for W&O psychology have been given by Roe (1995).

**European - North American differences**

Although European W&O psychology and North-American I/O psychology have much in common, it is not difficult to perceive the divergencies between them. There are prominent differences in scope and in approaches followed, as well as in content and methodology. The contrast is most conspicuous in the domain of work psychology which looks almost neglected by American I/O psychology, but there are dissimilarities in personnel and organizational psychology as well. The reasons for these differences can be understood from the social contexts in which psychology is embedded and seem to fall in four broad categories. *First of all*, work takes on different forms in Europe and North-America. In both continents, the natural habitat,
the economic and legal system, the available technology, and the overall organization of society with its particular work ethic and labour relations, define a particular empirical reality, which elicits the specific behavioral phenomena and social problems which psychologists devote their attention to. Thus, it is the society that determines the research done on industrial democracy and humane working conditions in Europe. The role of politics and values should not be underestimated here. Downsizing, plant closures, threat of unemployment may affect more people in North-America, in Europe it is considered as more important and more seen as a problem to be studied and alleviated by W&O psychologists.

Secondly, there is the institutional setting in which W&O psychology functions. There are clear differences in the organization of research and its funding, affecting how research is being done, what kind of outcomes are sought, etc. Although the situation is currently changing, European research in W&O psychology has been largely funded by public sources. Most research has been done by university based researchers, partly funded by governments in the context of their regular operation, and partly by research councils and other public funds. Additional money has been provided by industry and by government bodies. Although the situation differs across countries, the share of industry in the total funding of research has generally been much less than in the United States. For this reason European research has had a more thematic orientation and has shown more permanency, less flexibility. Many examples could be given of long-term programmatic research, sponsored by public funds. E.g. the Swedish Work-environment fund has supported many studies on the improvement of working and living conditions. For many years the German ministry of social affairs has sponsored research on the humanization of work life. The Dutch National Research Foundation sponsors a large-scale research programme on mental fatigue in work. The activities of the European Foundation for the Improvement of Working and Living Conditions, and 'framework programmes' of the European Union should be mentioned as well. Even though the emphasis is on technological and economic research, European W&O psychology has also profited from these resources. Important elements of the European infrastructure from which research has profited a lot are: the European Network of Organizational and Work Psychologists (ENOP), the European Association of Work and Organizational Psychology
(EAWOP), and the bi-annual European Congresses of Work and Organizational Psychology. ENOP has been instrumental in launching several large-scale research studies involving researchers from various European countries (Wilpert, 1993).

In the third place, there are cultural differences related to the way in which reality is conceived, individual and social problems are formulated, the role of the scientist is defined, etc. Linked up with their divergent philosophical traditions, European and American and European W&O psychologies have taken rather different approaches in theory and research. Thus, there is an unmistakable influence of the social philosophies of socialism in the larger part of Europe, and of liberalism in North-America. The emergence of particular schools of thought can also be looked upon from this perspective. Kant's notion of 'free will' can be seen as underlying the German school of goal-directed activity, while the Cartesian doctrine 'cogito ergo sum' can be recognized as the basis of the cognitive school in French work psychology. The principle of 'local sovereignty' favoured by Dutch protestants, underlies present-day approaches to the study of participatory decision making.

In the fourth place, there are differences in methodology, adopted by psychologists in general, which have philosophical roots as well. While empiricism has gained widespread acceptance in Europe, it is not as dominant as in North America. As was already mentioned when speaking about meaning, subjectivism is also taken seriously, especially in the latin language speaking countries: Italy, Spain and France. It is true that there exists a certain controversy between people embracing phenomenology, hermeneutics or other strands of subjectivism, and the proponents of objective empirical methods. But at the same time these approaches exist next to each other, and are often accepted as two complementary ways of gaining understanding of the reality of work. In other words, there is a certain pluralism in Europe, giving room for objective measurement next to subjective interpretation, analytical-synthetic thinking next to holistic approaches, etc. This is clearly visible in work analysis, where job analysis methods defining jobs terms of task elements and basic operations (Miller TRA) exist next to methods that analyze jobs in terms of integral structures of actions. This pluralism should not be taken as a matter of convenience or indiffer-
ence. It is rather based on the belief that each methodology has its strong points and its limitations, and that exclusive claims of truth are indefensible.

All this, makes the way in problems of W&O are looked upon and studied by Americans and Europeans different. To be sure, there is substantial commonality and overlap, people working on the same models and using the same methods. But certain topics and approaches are not shared and not fully understood by the other side. Let me give two examples. The first is a study by Sh. Zedeck and others on the selection of firemen. The researchers developed a most elaborate psychometric system of job analysis and selection, with the purpose of overcoming discriminatory hiring practices in the fire-fighting force. From a European perspective such an approach is not easily understood. One would never think of advanced psychometric tools as a way to stop discrimination, but rather opt for training, cultural change programs, or replacing senior officials endorsing discrimination. The second example is the Vroom-Yetton (1973) approach to participation. Using an algorithm to determine whether subordinates should be allowed to participate in decision making, seems a case of means-end reversal. Few Europeans would use the model except perhaps for convincing authoritarian managers that participation is also useful, arguing that even Americans do it.

Perhaps the major difference, met even in cases where Europeans and Americans work on the same topics and use the same instruments, is in the scientific paradigm followed. It seems that to many Europeans understanding is more important than empirical facts. A theory may be assessed as good if it explains a phenomenon in an intellectually meaningful way, even if that can not (or not yet) be fully proven by hard data. Also theories and models are often broadly conceived as to be comprehensive and include contextual factors which often cannot be rigorously investigated. Many Americans seem to aim for the opposite. They put the emphasis on data and measurement, and prefer simple models over complex models to account for them. The main requirement to a theory is that it predicts the data. Thus, Europeans

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2The research was described in an oral presentation in Heerlen, the Netherlands. See also Zedeck, et al., 1996.
emphasize definitions, meanings, qualitative methods, contingencies, are more holistic and contemplative, while Americans stress measurement, criteria, quantitative methods, meta-analysis, and are more analytical and pragmatic.

An interesting example which shows the difference in approach between Europe and North-America and illustrates the relatively independent developments at both sides can be found in the study of goals. Goals are a key concept in the theory of action regulation. Long before empirical evidence was collected in its support, it was claimed that goals are important because they direct and organize human activity, provide sense and satisfaction, etc. The theory also stated that the influence of goals imposed by others was mediated by self-generated goals (see the distinction between tasks-as-given and tasks-as-taken, mentioned above). Hacker (1973, 1978, 1986) mentioned three functions of goals: they are a model that organizes and directs the action, they serve as a standard to which the result of the ongoing action is compared, and they provide energy to the action. These properties of goals, described with reference to older theorists like Lewin (1926), Straub (1935), and Leontjev (1979), were presented as axioms rather than as hypotheses, and several other postulates were based on these axioms.

The action theoretic conception of goals is rather broad, and its ramifications are many. Basically goals are the anticipated results of action, or as more precisely said by Von Cranach (1982; p. 40): "A goal is the imagined state aspired to as the outcome of an action". The goal is more than a representation of a future state, it combines a desired outcome with an intention to achieve it, based on a volitional act. Moreover, the worker is supposed to set his/her own goals, taking into account the degrees of freedom offered by the situation, means-end relationships, temporal facets, etc. and specifying quantitative and qualitative dimensions. Finally goals have personal meaning, derived from the social significance of the result aimed for. Therefore goal-setting is a complex process, involves motivation and cognition, links the person and the object, and produces social meaning. The theoretical assumptions about goals have hardly been tested explicitly, but the validity of the many derivations and applications of action theory have made the soundness of these assumptions plausible. At the same there has been a growing interest among action theorists in
empirically studying the process of goal generation (Keckhausen & Kuhl, 1985; Gollwitzer & Bargh, 1996).

The best-known American approach to goal-setting is that of Locke and Latham (1981, 1990). Although the authors have suggested that goals direct attention, mobilize effort, increase persistence, and motivate the search for appropriate performance strategies, goal-setting research has focused on testing a set of hypotheses concerning certain dimensions of assigned goals. Only after years of empirical research on the relationship between goal attributes and performance, and consistent evidence for the positive effects of goal difficulty, specificity and feedback on performance, interest has grown for finding out why goal-setting actually works. Thus nowadays there is a considerable amount of research on the intermediary role of self-set goals in the relationship between assigned-goals and performance. Although the emphasis is still on measured attributes of external and internal goals, there is more interest in unravelling the psychological processes at the gap between goals and actions. As goal-related concepts, such as intentions and plans, have become more prevalent, the intellectual distance to European action theory becomes smaller, and finally the two may meet.

**Bridging the gap**

Clarifying the differences does not mean they should be over-estimated. There is considerable variety within European W&O psychology and North-American I/O psychology, and they cover common ground. E.g. there is a tradition of excellent psychometric and empirical research in Europe, and several American scholars have written very insightful texts not based on predictive studies. Areas in which Europeans and Americans have worked on the same issues and also collaborated are several. Examples include: the systems approach to organizations introduced by Katz & Kahn (1966, 1978), the Job-Characteristics Model of Hackman & Oldham (1980) which has been adopted and tested in Europe many times, the Value-Expectancy Model of Vroom (1964), and the PROMES system by Pritchard (1995) - all originating from the United States. Other examples, having their roots in Europe are the
research on goals and intentions (Gollwitzer et al., 1991), career transitions (Nicholson, 1984), the vitamin model (Warr, 1987), total life stress (Johansson), and work meaning (Wilpert et al., 1987).

In my opinion the differences should not only be seen as a dividing line, but also and rather as an opportunity. There are three major challenges for North-Americans and Europeans. First, the cultural differences between Europe and the United States provide a good opportunity for enrichment, that is a widening of the scope of approaches and theories. A better spread of existing ideas, partly with the help of translation of materials not yet published in English, will make clear that we have a much wider arsenal of ideas and methods to analyze and understand organizational and work phenomena, than is commonly assumed (also Roe, 1995a).

Secondly, the diversity in economic and cultural setting gives an excellent opportunity to test the generality of concepts and theories. Well-controlled comparative research can show to which degree theoretical ideas developed at either side holds in the other continent. This will separate models with a general applicability from those who are cultural specific, and thus contribute to the understanding of work and organizational phenomena in general. The same would only apply to technological part of W&O psychology. More and better knowledge would be obtained about the usefulness and limitations of the assessment and intervention methods which both communities have produced. Since there are indications that the applicability and effectiveness of intervention methods is restrained by cultural factors (Erez & Earley, 1993), such knowledge would help to make better choices and to achieve greater effectiveness of W&O psychology in practice. In an increasingly internationalizing world that would be an obvious advantage.

Thirdly, the distinct bodies of knowledge and the different approaches between the two sides can be seen as complementary resources from which one can take profit. These resources can complement each other and may produce valuable results in collaborative research efforts. American researchers would go about certain topics in a more rigorous way, putting more emphasis on issues of measurement and validity, while European researchers would have more eye for conceptual issues, contextual
factors and be more effective in handling qualitative evidence. And, of course, both parties would bring their own concepts and knowledge. Cooperation would also expand researchers’ resources in other respects. A mixed European-American research team would typically command multiple languages and have better knowledge of the cultural environments studied. But if Americans researchers would be involved in studies conducted in Europe and European researchers in studies in America, the typical blindness of researchers for their own culture would also be overcome. More sensitive research designs, better interpretations, and better fitting instruments would be generated.

Of course, this reasoning can also be applied to W&O psychology in other cultures, not addressed in this paper. But since the distance between Europe and North-America is less than with other cultures, and substantial exchange has already taken place, it would seem to me that collaborative research is really within reach. A pragmatic consideration is that the transatlantic collaboration between The United States, Canada and Europe has a long tradition, and that institutions such as NATO might be called upon to support joint activities in the future.

Conclusion

In this paper I have presented a structured image of European W&O psychology, summarized its major content, and mentioned some of the distinctive features. I have also contrasted it to European W&O psychology to North-American I/O psychology and noted that in spite of resemblances and overlap, there are remarkable differences. As reasons for the differences I have mentioned differences between the European and North-American societies, producing different empirical realities, institutional factors, such as the influence of governments and industries on research, differences in philosophical background, and distinct methodologies. Language competence and limited receptiveness among researchers have been mentioned as factors contributing to the rather independent developments at both sides of the Atlantic.
I have argued that the differences in approaches and methods, and the disparate bodies of knowledge should be considered as resources from which W&O psychology as an international discipline can profit. Since European and American researchers both have contributions to make, it would be worthwhile to promote their future cooperation. Collaboration efforts may be expected to improve our knowledge about the generality and culture-boundedness of current theory, and lead to a better integrated, more profound and more rigorously tested theory. Improvements would also be achieved with respect to the development of instruments and intervention methods. In an increasingly international world of work, the need that would be a great advantage.
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Psychologische Forschung, 7.


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Table 1: Scheme of topics in European research and theory

<table>
<thead>
<tr>
<th>Area</th>
<th>Topics</th>
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<tbody>
<tr>
<td>Work</td>
<td>* work activity, cognitive regulation, mental models</td>
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<td></td>
<td>* work load, state control, strategies</td>
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<td></td>
<td>* instrumented action</td>
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<td></td>
<td>* quality of work life &amp; occupational health</td>
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<td></td>
<td>* human error and reliability</td>
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<td>Personnel</td>
<td>* the applicant in personnel selection</td>
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<td></td>
<td>* career behavior &amp; psychological contract</td>
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<td>* job loss and unemployment</td>
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<td></td>
<td>* work and personality</td>
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<td>Organization</td>
<td>* groups</td>
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<td>* leadership</td>
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<td>* industrial democracy</td>
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<td>* socio-technical systems</td>
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<td>* participative approaches to change</td>
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<td>* study of meaning</td>
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<td>Integral</td>
<td>* new technology</td>
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<td></td>
<td>* systems safety</td>
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<td>* socio-economic transformation</td>
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Table 2: Career dimensions according to Nicholson (1990)

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<th>Dimension</th>
<th>Issue</th>
<th>High - Low</th>
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<tbody>
<tr>
<td>I. Speed</td>
<td>How often do they occur?</td>
<td>Fast vs. Slow</td>
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<tr>
<td>II. Amplitude</td>
<td>How radical is the change?</td>
<td>High amplitude vs. Low amplitude</td>
</tr>
<tr>
<td>III. Symmetry</td>
<td>How much time adjusting vs. time performing?</td>
<td>Long adjustment time s. short adjustment time</td>
</tr>
<tr>
<td>IV. Continuity</td>
<td>Any meaningful connection between transitions?</td>
<td>High continuity vs. low continuity</td>
</tr>
<tr>
<td>V. Discretion</td>
<td>How much autonomy in controlling the process?</td>
<td>High discretion vs. low discretion</td>
</tr>
<tr>
<td>VI. Complexity</td>
<td>Are multiple adaptations and adjustments required?</td>
<td>High complexity vs. low complexity</td>
</tr>
<tr>
<td>VII. Propulsion</td>
<td>Who started the cycle and why?</td>
<td>Self-propelled vs. system-propelled</td>
</tr>
<tr>
<td>VIII. Facilitation</td>
<td>Who / what helps progress through the cycle?</td>
<td>High facilitation vs. low facilitation</td>
</tr>
<tr>
<td>IX. Significance</td>
<td>Does adjustment change the individual or organization?</td>
<td>High significance vs. low significance</td>
</tr>
</tbody>
</table>
Table 3: The nine job characteristics of the vitamin model (Warr, 1984)

<table>
<thead>
<tr>
<th>CE (Constant effect) job characteristics</th>
<th>AD (additional decrement) job characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary</td>
<td>Job autonomy</td>
</tr>
<tr>
<td>Safety</td>
<td>Job demands</td>
</tr>
<tr>
<td>Task significance</td>
<td>Social support</td>
</tr>
<tr>
<td></td>
<td>Skill utilization</td>
</tr>
<tr>
<td></td>
<td>Skill variety</td>
</tr>
<tr>
<td></td>
<td>Task feedback</td>
</tr>
</tbody>
</table>
Figure 1: Map of Europe
OBJECTIVE TASK

Goal development

SUBJECTIVE TASK

Emotional-motivational & Cognitive regulation

Orientation
Analysis & Planning
Assessment & Choice

Action preparation

Action execution

Generating
Executing
Evaluating

ACTION

Figure 2: Stage model of action regulation
Figure 3: Information processing model of action regulation (Rasmussen, 1983)
PREPARATION
Developing helpful expectations, motives and feelings

STABILIZATION
Sustained trust, commitment and effectiveness with tasks and people

ENCOUNTER
Confidence in coping, enjoyment in sense-making

ADJUSTMENT
Personal change, role development and relationship building

Figure 4: Tasks and goals through the transition cycle (Nicholson, 1990)