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VOLITION

- AN OLD CONCEPT REEVALUATED

by

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1. INTRODUCTION

To locate a presentation on volition at such an early hour indicates a subtle preunderstanding of the will problem by the organizing committee of this congress. I believe, most of us have experienced that problem more or less this morning - except some early bird joggers. We had to fight against the temptation of staying in bed, but had to get up inspite of fatique and some headaches caused by a long night in the bar room - and perhaps some of the registered participants have not been very successful in that fight. Maybe, in the following 1 1/2 hours somebody will have to spend some effort to control a growing tendency to leave before I have finished - but I hope I'll be able to help this merely one person counteract that tendency successfully.

What are the psychological characteristics of phenomena, like the ones mentioned, which we used to label by the term 'volition' or - more philosophically - by the term 'will'? What strategies, methods and techniques can be applied to assess volitional qualities and to modify them systematically? I'll try to give some answers to these very old questions in the light of contemporary psychology.

But first, I would like to thank for invitation to this congress and for the prepaid confidence that I could be able to make an approximately useful contribution to this difficult subject.

2. HISTORICAL REVIEW

The volition theme seems to be as old as man reflects upon his own action. Since the ancient Greek philosophers it has been a main topic of **philosophical consideration**, especially in ethics. The problem of freedom of will, unsolved until now, stimulated one of the great fundamental controversies in philosophy between indeterminism and determinism, between the concept of self determination and that of a fateful dependence on biological drives and external circumstances.

The conflict between moral conscience and emotional temptation, that is between willing and feeling, and overcoming external difficulties and obstacles by a strong will in pursuing a good - or sometimes a less good - goal, characterizes many of the central figures in **world literature.**

But also in **everyday life**, a free and strong will is a basic, more or less latent assumption which regulates our social interaction. It is considered as a criterion for the attribution of social power and personal responsibility and, in consequence, for guilt and condemnation. Therefore, this understanding of man as a willing being plays an eminent role in **jurisdiction** and **criminology.**

In the late 18th century, in particular introduced by Johann Nikolaus TETENS in his attempt towards an empirical psychology on introspective basis and by the famous philosopher Immanuel KANT, volition was named explicitely as one of the three basic psychic abilities: thinking, feeling and willing. This distinction remained influential in modern **psychology** until the third decade of our century, at least in European psycholoy. Many of the early representatives of modern psychology, e.g. Wilhelm WUNDT, William JAMES, Kurt LEWIN and William STERN, to mention some of the best known, were extensively concerned with the volition problem.

There is no time now to point out the various and often contradictory historical answers to this problem, but I'll implicitely come back to them, because they are still relevant for a reconceptualization. What is the **situation now** concerning the volition problem? We can illustrate it by a recent quotation. In his contribution to "Volition as a problem in psychology" BAKAN stated:

> "A remarkable feature of the contemporary situation is that while volition is one of the most important problems of our time, it is most seriously neglected by professional psychologists."
> "Volition has been a taboo topic in psychology in the last half century." (BAKAN, 1975, 5)

According to this statement, the volition topic played no part, except very few contributions, neither in international sport psychological literature nor on former congresses on sport psychology.

Why did it happen that the volition problem came out of fashion? I think, there are several reasons for this, which can be summarized under the headings of sociocultural tendencies, on the one hand, and factors lying in the history of psychology, especially after World War I, on the other hand.

With regard to the **sociocultural background**, a fundamental change took place concerning the hierarchy of values, educational styles, manners of social interaction and interpretation of sex roles. In counteraction to the Victorian era with its puritanic, drive-suppressing ideal of self discipline and authority, and in reaction to the disasters of the World Wars caused by a fatal political will of power and, finally, in refusion to a predominant efficiency principle in our society, volition got into discredit. Under the slogans of moral liberalization, emancipation and spontaneity volition seemed to be no longer a high valued quality.

The main factors due to the **history of psychology** leading to banishment of volition, can in short be characterized as follows:

(1) Terminology of the classic concepts of volition remained more or less vague, contradictory and hardly operationally defined. The concepts by themselves provided no basis for comprehensive empirical research with a sufficient degree of accuracy. This situation facilitates the disintegration of the volition concept to partial but overgeneralized concepts like 'motivation', 'decision making', 'attention', 'stress' and 'motor control'.

(2) The trait-approach of classic psychology came to its limits, that is, the exclusive explanation of human behavior and of its interindividual differences by individual abilities proved to

be inadequate. In consequence, volition as a general quality of a person didn't sufficiently fit the facts.

(3) Many of the leading psychologists in Europe which were concerned with the volition problem had to emigrate, when the Nazi-regime came into power in 1933. World-wide known schools of psychology ceased to exist, e.g. the Berlin School of Gestalt psychology of Max WERTHEIMER, Kurt KOFFKA, Wolfgang KOEHLER, and Kurt LEWIN, the personalistic school of William STERN and the Vienna school of Karl BUEHLER. By the way, most of them emigrated to the USA and contributed to the later cognitive trend in American psychology and psychotherapy and to the development of humanistic psychology.

(4) Finally, most influential was the growing predominance of two deterministic theories, the behavioristic one and the psychoanalytic one. Guided along the ideal of accuracy and objectivity of natural sciences and based on a mechanistic understanding of man, conscious processes, self determination and action regulation according to higher values were out of scientific discussion in behaviorism. In psychoanalysis the leading deterministic principle was seen in unconscious tendencies being out of the normal control of volitionary processes. Therefore, in both theories no place for the volition concept remaines any more.

Nowadays, there seems to happen a 'roll back' to the classic distinction between thinking, feeling and willing, announced by the cognitive trend in psychology, the development of new concepts of emotion and, most recently, by the reevaluation of the volition concept. I believe, this amazing, but after all predictable situation is caused by manifold factors.

Apparently, there are a lot of disintegrated concepts in psychology like 'drive', 'emotion', 'motivation', 'cognition', 'problem-solving' etc., each of them subject to a lot of uncomparable operationalizations. Consequently, there is a growing need of

integrative concepts for both theoretical and practical reasons - nobody has ever seen a person, who is nothing but motivated or problem-solving without simultaneously feeling or willing and doing anything. GOLDBERG underlines this argumentation by one of his objections to discarding will:

> "Personality theory is deficient without a unifying concept that takes human purpose and intent into account." (GOLDBERG, 1977, 38)

Concerning **sport psychology**, reactivation of the volition concept received a particular impulse from sport practice:
A series of unsufficient results of Eastern athletes in international contests like the XVI. Olympic Games at Melbourne in 1956 and the European Track and Field Championship in 1958 shocked coaches and sport functionaries. The fact that several favorite athletes didn't achieve the expected goals was explicitely attributed to a lack of will power in training and competition and, preceding this, to the neglection of volitional training (OSOLIN, 1959). These attributions stimulated the development of new training concepts and research on volition in Eastern European countries.

But it seems that there is again a big time lag between the definition of a problem and its scientific solution. According to this, RYCHTECKY came in 1978 to the following conclusion:

> "One of the significant and yet little studied aspects of the psychology of limit performance is the ascertainment of the share of volition and volitional effort in the sports performance. (RYCHTECKY, 1978, 176)

I hope, we'll progress in this aspect in the course of the present congress.

This brief historical review may provide a useful basis for the development of a revised concept of volition, taking into account of what has been done in the past and helping us to keep in mind - according to the old king Salomon - that there is seldom anything completely new under the sun.

Now, let us come to the central matter of my presentation, an outline of the concept of volition on an action theoretical basis.

3. THE CONCEPT OF VOLITION

3.1 Definition of volition

The first question to be asked is that of defining volition. Let us start with some basic assumptions:

(1) There is no empirical evidence which shows that volition exists as a separate energy or entity in an ontological sense. On the contrary, volition can be considered as a special functional quality of human activity. Therefore, the adequate question is not "What i s volition?" but "How o p e r a t e s volition?". For this reason the term 'will' is replaced by the term 'volition'.

In this process-oriented perspective it is not sufficient to grade the intensity of will power. We must look for the components of the volitional process and rate each component in order to assess the volition profile of a person.

(2) Most of researchers on volition agree that the term volition refers to an overall characteristic of higher behavior organization in the face of an adaptation problem. This may provide a useful basis to explain the functional role of volition and to define volition in relation to other concepts like 'cognition', 'emotion', 'motivation' etc.

The underlying assumption is that human behavior is regulated by different control systems. According to the history of evolution there are good reasons to postulate three interrelated **action control systems**, namely the 'automatic control system', the 'emotional control system' and the 'cognitive control system', each of which having specific adaptational functions (see fig. 1).

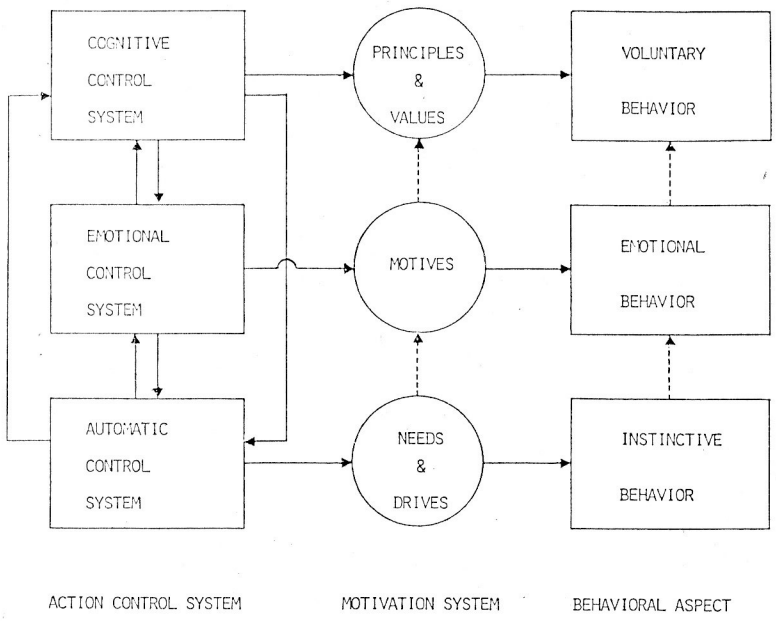

Fig. 1: Regulatory basis of behavior.

The oldest one is the **'autonomic control system'**. It includes reflex and homeostatic mechanisms. Its motivational basis are biological drives and needs which lead to instinctive behavior in a broader sense. The main characteristic of this system is that it can only be affected by certain stimuli, to which it responds with genetically preprogrammed reactions.

On a higher level of evolution the **'emotional control system'** provides a much more flexible interrelation between stimuli and reactions. Stimuli do not automatically cause a certain reaction pattern. It depends upon the emotional appraisal of stimuli and reactions, whether and how one tends to respond. It are not certain sexual stimuli which necessarily evoke some reactions, and it is not the objective beauty of a woman which affects me, but the subjective appraisal of her qualities - and it belongs to wisdom of nature that our perceptions used to be quite different. The motivational basis on this regulation level comprises acquired motives leading to emotional behavior, if no further cognitive interference occurs.

Finally, the **'cognitive control system'** is the most flexible one. This flexibility is due to the fact that the cognitive control system operates on the basis of general concepts and verbal codes. The stimulus-response sequence is mediated by cognitive analysis of situation and planning processes with reference to internal models of person and environment. Therefore voluntary behavior, which is the specific outcome of the cognitive control system, is called 'conscious' and 'rational'. Motivationally, voluntary behavior is based on principles and values, which can be regarded as highly generalized complexes of motives. In this sense voluntary behavior is often called 'cool'. Both, cognitive mediation and motivation by general values lead to another characteristic of voluntary behavior, namely its relative independence of the actual situation.

In contrast to the automatic and emotional control system, the adaptive function of the cognitive control system is not to provide an immediate, fast and short-term adaptation, but to perform

preventive and long-term adaptational tasks. This is indicated, when we talk about the 'future-oriented character' of voluntary behavior.

To avoid possible misunderstandings, it is necessary to emphasize the fact that not each behavior is voluntary, but each voluntary behavior includes emotional and automatic processes.

To complete this description, we can illustrate the difference between the control systems by the following example.

There are several reasons to become a jogger:

(1) A long period of theoretical work on volition leads you to serious movement deprivation, associated with a growing need of physical activity, and jogging is a means of satisfying this basic need.

(2) You don't suffer from immobilization, but you perceive that everybody is jogging, especially the past president of the USA and the past president of NASPSPA.

(3) You feel no need of physical activity and you hate jogging, but you recognize that it may be a necessary preventive means of remaining in good health and shape and gaining the appreciation of your wife or girl friend or both, or becoming the next president.

To summarize what has been elaborated until now, volition can be defined as conscious and rational organization of goal-directed behavior in the face of difficulties and inspite of lacking or aversive stimulation in the actual situation.

To continue the discussion of the volition concept, now we can ask the question more precisely: What are the basic volitional qualities which we must take into account in order to characterize a person, to analyze his specific volitional problems and to gain useful starting points for volition training?

3.2 Classification of volitional qualities

There are several, but quite different attempts to classify

volitional qualities in general psychology (e.g. LERSCH, 1962; RUBINSTEIN, 1971; ASSAGIOLI, 1982) and sport psychology as well (e.g. ELSSNER & JÄHNIG, 1955; PUNI, 1961; FEDOROV, 1968; SCHARF, 1969). I am not going to present them in detail. Instead, I'll try to give an integrative classification.

Considering goal-directed behavior inspite of difficulties as a characteristic outcome of the volition process, we can gain a first aspect for classification by asking what kinds of possible difficulties may occur, which we then must overcome to achieve our goals. For example, in cross-country running you must overcome a lot of obstacles in the terrain and also growing feelings of fatigue, pain and fear of injury. More generally, internal and external difficulties must be mastered.

With reference to **internal** difficulties we speak about 'self-control' and 'self-discipline', which might be seriously tested, when you must wait for the best chance for an attack in fencing, or when you must overcome your resignation in a tennis match which is almost lost, or in the opera, when you fight against a painful tendency to cough. Overcoming **external** difficulties is usually labelled by terms like 'endurance' or 'fighting spirit' or 'resistance', which are sometimes also needed in the face of various temptations of casinos in Las Vegas.

We can combine the distinction between internal and external orientation of volition with another basic classification aspect, which we gain from the shortest verbal description of the volitional act: "**I will this**". Laying the accent on the subject "I", a basic volitional quality is indicated, which is called 'autonomy'. The object "this" focuses a second quality, called 'decisiveness', and the predicate "will" stresses a third one, namely 'persistency'. I'm going to discuss these qualities more in detail now (see fig. 2).

Within the context of the volitional problem, **autonomy** can generally be defined as the perceived competence for self organization. Therefore, autonomy is the core of self concept.

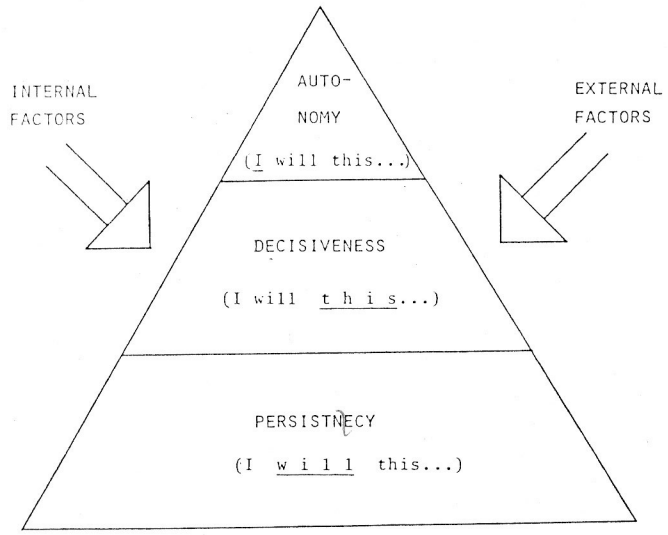

Fig. 2: Hierarchy of basic volitional qualities.

Essential questions are the following: "Can I really feel myself as origin of my actions?" - "To what extent can I identify myself with what I'm doing?" - "How far does future depend on myself?" In this sense, high autonomous athletes are convinced that they must take the initiative by themselves in order to make things run better. We must take into account, that a conviction like this, when overemphasized, may lead to conflicts in all team games.

Autonomy includes two components, namely 'independence' and 'responsibility'. With regard to internal orientation, **independence** means that you don't feel in danger of being overwhelmed by some uncontrollable affective tendencies which force you to unintended behavior. In external orientation it means relative independence of actual physical (e.g. climatic) and/or social influences and constraints. In particular, this includes that you feel independent of the opinions of others, and, therefore, you prefer self-critique and self-reinforcement. **Responsibility** concerns decision making according to one's own conscience and the tendency of attributing good or bad decisions and the resulting success or failure to oneself. This also implies preference of important tasks and functions and refusion of social support.

Apparently, the autonomy concept could be further elaborated in reference to several psychological sub-theories, developed in the last years, especially reactance theory (BREHM, 1966, 1972; WORTMAN & BREHM, 1975), locus of control and attribution theory (HEIDER, 1958; ROTTER, 1966, 1975; WEINER et al., 1971; ABRAMSON, SELIGMAN & TEASDALE, 1978; ALLMER, 1978), learned helplessness theory (SELIGMAN, 1975) and the concept of intrinsic and extrinsic motivation. Philosophically, it is related to some aspects of the classic problem of freedom of will (an outstanding discussion is presented by DANNER, 1977).

Many actions and behavioral problems in sports and everyday life are based on gaining, maintaining or loosing autonomy.

An outstanding example for a high autonomy tendency provides the

West German Michael Groß, one of the world's best swimmers at the moment, who is expected to win at least one gold medal in Los Angeles. In a recent interview he said:

> "When I win some gold medals, that's okay; if not, that's only my problem, because I am the one to swim."

Michael Groß is going to start in the first swimming discipline of the Olympic Games. Therefore, he will probably face a specific problem: His success or failure will influence the entire German swimming equipe. So, he might feel more or less responsible for the performance of his teammates, and probably he is not used to take this kind of responsibility.

Now let us come to the second basic volitional quality, **decisiveness.** This term refers to the ability to make adequate, fast and definite decisions in ambiguous situations concerning goals as well as the means and ways to achieve them.

According to the theory of decision making and problem solving the decision process comprises the following steps (see fig. 3). In each of these steps, the decision process can be interrupted for more or less extensive information seeking, or it can be definitely terminated:

(1) **Problem perception:** Is there any problem?
To perceive a problem does not only require analytical abilities, but also overcoming inertia and habitual behavior. A coach who denies social psychological problems in his team has no chance to improve cooperation.

(2) **Problem definition:** What is the problem?
In order to solve a problem successfully, you must recognize its structure. This depends on adequate answers to questions like: Is it an internal or external problem, a problem of motivation or competence, a physical or psychological problem, a problem of overload or underload, general or specific, short-term or long-term? Further more, what are the factors,

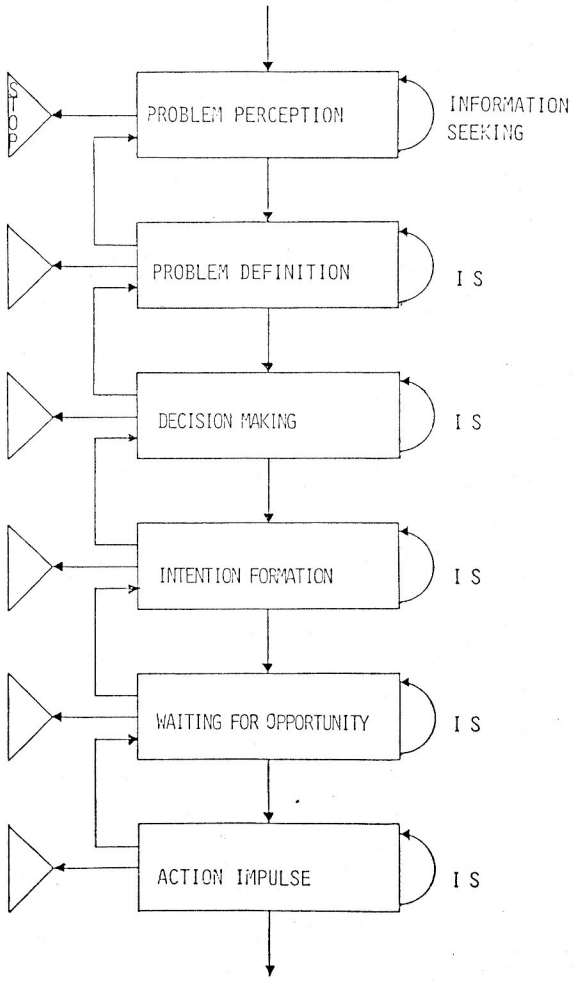

Fig. 3: Steps in the decision process.

which impede a solution? And finally, does your definition of a problem sufficiently fit reality, or is it at least in line with the definition given by relevant other persons?

(3) Decision making: What are possible alternative solutions?
What is the relatively best solution?
Is this solution sufficiently good?

The essential requirement in this step is to solve motivational and instrumental conflicts, and to build up a hierarchy of preferences without extensively deliberating all eventualities. This means to apply SIMON's principle (SIMON, 1955, 1978) of approximate or satisfactory rationality instead of the optimizing principle in uncertain or risk situations like those often given in sports.

Information processing according to the satisfactory principle requires appropriate decision strategies in the sense of modern decision theory - until now an almost completely neglected aspect in sport psychology and psychological training.

(4) **Intention formation:** Am I to realize the preferred solution by myself?
Am I really ready to achieve the selected goal?

This step of self-commitment is comparable to the application of a computer program. Special problems occur because of the fact that choosing one alternative is associated with neglecting another one and each alternative usually has both positive and negative consequences. This may lead to a lot of dissonances in the sense of FESTINGER's cognitive dissonance theory (FESTINGER, 1957) and perhaps to a return to the step of decision making.

(5) **Waiting for opportunity:** Is there any opportunity according to the selected solution?

Is this opportunity sufficiently good?

The well-known risk in this step is that waiting for the best opportunity may result in missing the last opportunity.

(6) **Action impulse:** This is the step of the 'fait accompli', which often permits no further retreat or revision. The anticipation of this definiteness is a typical anxiety-inducing factor, e.g. before a 7m-penalty throw in handball.

Now, some comments upon the third basic volitional quality, **persistency:**

Persistency refers to the ability of a person in a given situation to keep in mind and maintain a certain goal until it is reached, to submit all activities to this goal, and if necessary, to perform permanent and hard work to achieve it, to cope with distractions, disturbances and difficulties and to wait for success patiently. An athlete with an obviously high persistency is the West German Ulrike Meyfarth, winner of the gold medal in high jumping in 1972 and also participant in the Olympic Games of this year, who described her up and downs under the slogan "10 centimeters in 10 years". Al Oerter may be regarded as a similar example in discus throwing. During the 'iron man'-championship in triathlon persistency is apparently required up to an extreme extent. Furthermore, a special persistency problem is usually experienced on the last 30 meters in 400 m hurdle race.

Considered more detailed, persistency includes two aspects, namely 'goal-directedness' and 'endurance'.

Goal-directedness means what ASSAGIOLO (1982, 31) called "one-pointedness", that is, to concentrate all energies on the attainment of a certain goal, like a lense collecting the sunbeams, and to perform this activity inspite of various distractions. The lense model also illustrates that high goal-directedness may compensate some energy deficits up to a certain degree and low goal-directed-

ness may result in inefficiency inspite of high effort. Furthermore, high goal-directedness does not mean to reach the goal on the direct and shortest way, but to keep the goal in mind, even if roundabout ways are necessary.

Endurance, in a psychological sense, does not primarily depend on the amount of energy available, but on the degree to which you are ready to apply your potential according to an individual effort level, and on its economical use. Last not least, a determinative factor of endurance is resistance to stress. To bear failure, blame, social isolation, delay of gratification, long periods of monotonous training without any appreciation, and to overcome pain, anxiety and resignation are some important demands on endurance in sports. Characteristic endurance problems occur, when you must overcome the socalled dead lock, or when you must stabilize your will to win inspite of the experience of an permanent 'second winner' - a situation Harald Schmidt is concerned with in hurdling (in contrast to Edwin Moses) as well as in decathlon (Daley Thompson).

Autonomy, decisiveness and persistency can be considered as analytically separated volitional qualities, but there are some important functional interrelations. You can only build up a stable concept of autonomy in anticipating a sufficient degree of decisiveness and persistency according to your former experiences. Inversely, high persistency and decisiveness require the conviction that things are sufficiently under your control.

Inspite of this relation, these three basic volitional qualities may be developed differently. Therefore, it is not adequate to suppose an one-dimensional quality, called 'will-power'.

I think, this distinction of volitional qualities may provide a basis for psychodiagnostic assessment as well as for some special psychological training procedures. I am going to point out these aspects now, at least in short.

4. ASSESSMENT OF VOLITIONAL QUALITIES

Except the classic experiments in the tradition of Narziß ACH and Kurt LEWIN, there has been an apparently lack of specific empirical research. Thus, measurement of volition is not on a high methodological standard at the moment. There are only a few reports on sport-related empirical studies by PARWANOW, GENOVA & POPOW (1963), ILG (1964), DIMITROVA (1970), GHERON (1970, 1973), RYCHTECKY & VANEK (1975), RYCHTECKY (1978) and DORSEY, LAWSON & PEZER (1980). They are focused on some special aspects of the volition concept with interesting results in detail, but without providing a more general basis for assessment of volition. According to these studies and, in particular, to our concept of volition I'll try to outline a perspective for assessment of volitional qualities.

When we keep in mind that volition is considered as an intentional process of self organization, then the first question is: What are the leading principles in this organization process? I suppose, these principles can be found by analyzing the self-demands of a person. The main ones may be the following:

- Concerning autonomy it is the demand for control: Up to which extent do I want to control my situation by myself?
- Concerning decisiveness it is the demand for certainty: What amount of information do I need to make sufficiently good decisions?
- Concerning persistency it is the demand for economy or the effort level: What amount of energy or effort do I maximally intend to apply?

We can gain a second aspect asking for the functional basis of volitional qualities and the preferred ways and means to realize them:

- With reference to autonomy we must especially look for attribution patterns: What kinds of self-attributions of causality

and responsiblity does an athlete tend to prefer concerning his past, present, and future situation?
- With reference to decisiveness individual strategies of decision making are of central interest: For example, does an athlete or coach primarily tend to maximize gains or to minimize losses? What part do probability ratings play in their decision processes?
- With reference to persistency, preferred coping techniques may be emphasized.

Finally, a third aspect concern the indicators we apply to assess characteristics of the individual volition process. According to a traditional distinction in psychology, such indicators can be chosen on performance level, physiological level and subjective or self-report level.

Classic performance indicators are

- successful performance in contradiction to association tendencies,
- probability of continuing interrupted actions,
- choice reaction experiments,
- second task method and
- performance under aversive stimulation.

In some of the very few sport-related studies, DIMITROVA (1970), GHERON (1970), RYCHTECKY & VANEK (1975) additionally took into account the following time sequence: start of action - onset of unpleasant feelings - state of maximal discomfort (dead lock) - failure or break down. I believe this is an important step to a more process-oriented diagnostic.

These authors also applied some indicators on the physiological level, especially EMG, focusing on the effort aspect of volition. The main criterion was irradiation of muscle tension to inactive muscles, but I am sceptical that tension irradiation can be regarded as directly correlated to volitional effort.

A special problem of performance and physiological measures of volition results from the fact that manifest efficiency of voluntary behavior is not identical with a comparable amount of volitional

ACTION PHASE	AUTONOMY		DECISIVENESS		PERSISTENCY	
	INTERNAL	EXTERNAL	INTERNAL	EXTERNAL	INTERNAL	EXTERNAL
ANTICIPATION PHASE -INTENT.						
-INSTRUM.						
REALIZATION PHASE -INTENT.						
-INSTRUM.						
INTERPRETATION PHASE -INTENT.						
-INSTRUM.						

Tab. 1: Scheme for an action-related analysis of volitional qualities and problems.

power. Efficiency depends on internal and external difficulties, which you must overcome. Consequently, inefficient voluntary behavior can be caused by extremely high drive pressure, a great variety of motives and interests and extraordinary external demands as well as by a potential lack of basic volitional qualities.

Concerning the **self-report level**, there exist only a few elaborated questionnaires like the "scale measuring the functioning of will", developed by LIVINGSTON (1977), and the 14-items questionnaire to measure the "will to win", constructed by PEZER on a factor analytical basis (PEZER, 1977; PEZER & BROWN, 1980).

For a progress in this aspect it may be useful to apply our scheme of volitional qualities, additionally taking into consideration that actions occur in a characteristic sequence of three phases, namely **'antizipation-phase'**, which comprises all orientation activities before an overt action is started, the actual execution of an action during the **'realization-phase'** and the subjective evaluation of the course and results of that action in the **'interpretation-phase'**.

Furthermore, in each of these phases, two functional aspects are relevant: The first one refers to purposes and goals, their development, their maintainment during action and their final evaluation in respect of the degree of attainment. This aspect is called **'intentional aspect'**. The second aspect is related to plans, means and ways and is called **'instrumental aspect'**.

Combination of these various aspects leads to the following frame of reference which may provide a basis for the analysis of individual volition profiles and for the construction of appropriate scales (see table 1).

5. MODIFICATION OF VOLITIONAL QUALITIES

Now, let me complete my discussion of the volition problem by some

comments on modification of volitional qualities.

I agree with GHERON, who stated:

> "One of the most important tasks in the preparation of sportsmen is the development of their capacity to make maximum purposeful efforts." (GHERON, 1970, 187)

But how can we successfully achieve this task? There are some suggestions, most of them given by Eastern European authors, e.g. DSHERAJAN & CHUDADOW (1955), OSOLIN (1959), PUNI (1961), RÖDER (1960), ILG (1964), ROUDIK (1965), STÜBNER (1967), FEDOROV (1968), CZAJKOWSKI (1971), DIMITROVA (1970). Im am sure many of the coaches and elite athletes apply some specific techniques more or less implicitely. However, no sufficiently elaborated and scientifically validated programs of volition training exist until now. Therefore, I can only line out some basic ideas, which may be helpful in further considerations of this topic (see table 2).

Volition refers to overcoming internal and external difficulties. Accordingly, development of a positive attitude towards difficulties, and exercise in and experience of their successful coping is the central idea of volition training.

Related to **autonomy**, training should follow a **'try-it-by-yourself principle'** in an appropriate manner. The situation of the West German national team in soccer illustrates that this rather trivial principle is often not applied. Unexpectedly, our team failed completely in the recent European Championship. Everybody stated that this failure was due to a lack of leading persons on the team. But how can a young player become leading, when he is not allowed to make mistakes, when the composition of the team is permanently changed and, especially, deviations from the instructions given by the coach are punished by being not elected any longer? Under these circumstances we can expect that players at best can become puppets on the strings, which behave without any personal initiative. Recognizing this, as early as in 1959 OSOLIN demanded more autonomy of athletes in training and competition.

VOLITIONAL QUALITY	TRAINING PRINCIPLE
AUTONOMY:	1. TRY-IT-BY-YOURSELF PRINCIPLE
DECISIVENESS:	2. DEFINE-THE-PROBLEM PRINCIPLE 3. WHAT-IS-THE-ALTERNATIVE PRINCIPLE 4. BIRD'S-EYE-VIEW PRINCIPLE 5. LOOK-AT-THE-KNOTS PRINCIPLE 6. TAKE-IT-UNDER-ONE-UMBRELLA PRINCIPLE 7. CHOOSE-AND-GO PRINCIPLE
PERSISTENCY:	8. ONE-MORE-TRIAL PRINCIPLE 9. START-LAST-END-FIRST PRINCIPLE 10. RELIEF PRINCIPLE

Tab. 2: Some leading principles in volition training.

In particular, he suggested temporarily independent development of training programs by the athlete and participation in some competitions without any support of his coach. Application of this principle may prove to be a serious challenge to the self concept of a coach.

A more mentally oriented training might start with two basic instructions:

(1) **'Identify your real interest!'** The question is, how far is that what I am asked to do in line with my own interests? Only when this is the case you are able to intentionally apply maximal effort.

(2) **'Identify your potential abilities!'** Here, the question is, what could I contribute to a given task, if I am permitted to do so? Answering this question is more difficult than it appears to be at first sight, because it requires overcoming some fixed inferiority complexes and, last not least, mastering social comparison processes like "The famous xyz failed and, therefore, there is no reason that I can perform better".

The general aim of training **decisiveness** is to provide adequate, fast and definite decisions.

Adequacy may be improved by applying the following principles:

(1) **'Define-the-problem principle'**: An athlete or a team is mentally or actually confronted with several difficulties and must give an explicit definition of the problem to get a better insight in various problem structures.

(2) **'What-is-the-alternative principle'**: In a given complex situation the athlete should look for at least two similarly good solutions.

(3) **'Bird's-eye-view principle'**: The athlete is required to get away from his own perspective of an actual situation and to

take the perspective of another relevant person (a cooperative teammate or coach) or to take a much more longer time period into account.

In order to **accelerate** decision making two principles may be relevant:

(1) **'Look-at-the-knots principle'**: For the avoidance of information overload it is very important to learn to identify the essential cues in an given situation and to neglect any irrelevant information.

(2) **'Take-it-under-one-umbrella principle'**: This principle refers to the known fact that speed and capacity of information processing can be increased, when we apply 'super signals' which are built up in a so-called chunking process by the composition of various elements under an integrative code.

An additional principle refers to making **definite** decisions, the **'choose-and-go principle'**: The athlete is confronted with a series of decision conflicts, must choose a certain solution and immediately perform the action.

Besides these principles, it may be useful to correct - in the sense of ELLIS' RET technique - some irrational beliefs like "I must take into account all eventualities" or "My decisions must be absolutely right".

Most of the suggestions on volition training given in the past refer to **persistency**. Central aspects comprise improvement of self-instructions, imagination of successful voluntary behavior, stress inoculation training and relaxation techniques, development of a hierarchy of motives which leads to a multi-motivated and transpersonal-motivated activity. This last point is regarded as highly important for persistency by some authors emphasizing the development of team spirit and patriotism (DSHERAJAN & CHUDADOW, 1955; OSOLIN, 1959; PUNI, 1959; STÜBNER, 1967).

Furthermore, the following principles were occasionally applied with good results:

(1) **'One-more-trial principle'**: The athlete is asked to perform at least a few trials beyond the dead lock.

(2) **'Start-last-end-first principle'**: That is, the athlete must make up a lead of his training partner. For example MICHALSKI (1966) applied this principle successfully in running. The runners started in 15 sec. intervalls on a 3 km distance and were expected to come in before the preceding runner.

(3) **'Relief principle'**: Training is performed under extraordinary difficult circumstances, e.g. with additional weights or time prolongation, so competition appears to be less demanding than training.

Of course, this short discussion should not lead to the assumption that the same procedure of volition training is appropriate to all athletes, independent of their specific disciplines. On the contrary, different sport disciplines may require different volition profiles. For example, autonomy is focused in individual sports, especially in those disciplines which imply an objective measurement of performance independent of evaluations of other persons, e.g. in sprint in contrast to gymnastics. Decisiveness is particularly relevant in the complex situation of team sports, and persistency is especially predominant in endurance disciplines.

Furthermore, it is not advisable to strive for a maximum degree of volitional qualities, but for a moderate one in the sense of an inverse u-function between performance and volitional power. Therefore, not only a low degree of volitional qualities may result in performance decrements. Extremely high autonomy may lead to problems in social adaptation and cooperation. An athlete who tends to do as much as possible by himself or to keep all things under his personal control, is likely to suffer from overload, to refuse helpful advices and to impede team tactics. Extremely high

decisiveness implies the risk of neglecting long-term consequences. Extremely high persistency may mean to stick to decisions which prove to be wong, to be unable to adapt to changing circumstances, to suppress important warning signals from the body and to behave in a manner, which is inconsiderate towards the interests of other persons. Last not least, extremely high goal-directedness may lower the threshold of being critical against unpermitted means, support and substances.

Finally, based on the finding that voluntary effort can compensate lacking skills up to a certain degree, development of appropriate motor skills is sometimes neglected. In this sense, CZAJKOWSKI (1971, 59) stated:

> "It is harmful to stimulate an athlete to higher effort without having completed his tactics and techniques."

6. SUMMARY AND CONCLUSION

Let me conclude by summarizing the essential aspects:

(1) Volition is defined as conscious and rational organization of goal-directed behavior in the face of difficulties and inspite of lacking or aversive stimulation in an actual situation. As this is an important characteristic of all activities in sport, the volition concept is necessary for an adequate explanation of sports behavior. Therefore, the volition concept should be elaborated within an integrative view of human action in the sense of a psychological action theory.

(2) There are good reasons for the consideration of volition as a multidimensional concept. The distinction between basic volitional qualities, namely 'autonomy', 'decisiveness' and 'persistency', may be a useful approach to the analysis of this multidimensional structure.

(3) Assessment of volitional qualities may focus on leading self-demands, functional aspects like attribution patterns,

strategies of decision making and specific coping techniques as well as on process-oriented indicators on the performance level, the physiological level and the self-report level. Concerning this, it appears to be necessary to relate volitional qualities and problems to the phase sequence in the course of an action.

(4) The central point in modification of volitional qualities is learning to handle internal and external difficulties with special reference to the demands of a certain sports discipline and its physical training. Beyond helpful suggestions, we must progress to scientifically validated programs of volition training. Last not least, this is also important in order to protect athletes against uncontrolled psychological manipulation. We must keep in mind that it is the performance of an athlete in his personal control which is the core of all sports. When this is threatened, sports tend to lose its sense, and sciences of sport tend to go beyond their ethical limits.

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