Psychology in Chess

Nikolai Krogius

Hello everybody!!
Hola a todos!!

"We are a group of chess fans who are producing chess material. We have several projects and ideas. We have members from all around the world, belonging to different cultures and speaking different languages, all of us joined by our common love for chess!." We hope you will enjoy our work!

"Somos un grupo de fanáticos del ajedrez, que estamos tratando de producir material de ajedrez, desarrollando diferentes proyectos e ideas. Tenemos miembros de diferentes partes del mundo, provenientes de diferentes culturas, hablando diferentes lenguas, unidos por nuestra pasión por el ajedrez!." Esperamos que disfruten de esta muestra de nuestro trabajo!.

If you are interested in joining us, or send any comments drop us an email at: thecaissalovers@gmail.com
Si alguien estuviese interesado en unirse al grupo nos pueden escribir a: thecaissalovers@gmail.com

Best regards!!
Saludos!

" Caissa Lovers"

Psychology in Chess

By

Nikolai Krogius

RHM PRESS
a division of RHM Associates of Delaware, Inc.
840 Willis Avenue, Albertson, N.Y. 11507

RHM PRESS
a division of RHM Associates of Delaware, Inc.
220 Fifth Avenue, New York, N.Y. 10001

Library of Congress Catalog Card No.: 75-35003
ISBN 089058-023-5

Photosetting by Quickset, 182-184 Old Street, London EC1V 9BQ.
Printed in the United States of America

Second Printing July 1977

SPECIAL ANNOUNCEMENT

The reader's attention is directed to the back of this book where we describe in full the whole concept of THE RHM SURVEY OF CURRENT CHESS OPENINGS.

With a world-renowned Editorial Board which includes Anatoly Karpov, Viktor Korchnoy, Boris Spassky, Tigran Petrosian, Svetozar Gligoric, Bent Larsen, Lubosh Kavalek and other top Grandmasters, we are presenting an important new appproach to the Openings in chess, which we are sure you will find of great interest.

Please refer to the back of this book for full details.

RHM Press

Publisher's Foreword

The role of psychology in chess has long been underrated in the Western World. Most players spend all of their study time immersed in books about the openings and the endgame, without even trying to analyze their own strengths and weaknesses as a player. In the Soviet Union, on the other hand, it has long been known than an understanding of oneself and one's opponents and an analysis of one's own faults as a chess player can often be even more fruitful than a close study of the latest openings book.

Nikolai Krogius is an International Grandmaster and a professional psychologist as well as being an expert on the various methods used to train Soviet chess players. He has written several articles and books on chess psychology and the present volume combines the very best of Krogius' writings on the subject. Amongst the important subjects discussed in this book are time trouble, its causes, effects and cures, tournament tactics, the study of one's opponent, and attention — how to develop one's concentration and how to cure the various deficiencies of attention that are seen the play of every chess enthusiast.

We at R.H.M. are proud to be the first publishers to be bringing most of this instructive material to the attention of English speaking chess players. We feel sure that those who read this book will add a completely new dimension to their play and that they will erradicate defects that have cost them many points in the past.

Please be sure that you read the description of THE R.H.M. SURVEY OF CURRENT CHESS OPENINGS which follows the indexes at the end of this book. As well as announcing our forthcoming titles in the series, this description will acquaint you with our new loose-leaf updating service which will, we feel certain, prove of immeasurable help to all chess players in attaining rapid forward progress in the quality of their play.

We take this opportunity to thank you for your interest in R.H.M. Press publications.

Sidney Fried
Publisher

Symbols

! A good move.
!! An excellent, beautiful or hard-to-find move.
? A poor move.
?? A very poor move or a blunder.
!? An interesting move, possibly involving some risk.
?! A dubious move.

Acknowledgements

Most of the material in this book is derived from Krogius' two major works **Chelovek v Shakhmatakh** (The Human Element in Chess or, more literally, Man in Chess) which was Published in Saratov in 1967; and **O Psikhologii Shakhmatnogo Tvorchestva** (The Psychology of Chess Creativity) published in Moscow in 1969. The remainder of the source material comes from Krogius' articles in the Soviet chess press and from his part of the book **Pamyat i Vnimanye Shakhmatista** (The Memory and Attention of the Chess Player) which was published in Moscow in 1968.

R.H.M. wish to thank the following people for their help in the editing of this book. The original publications from which this book was created were translated from the Russian by **Katya Young** and **Bernard Cafferty.** Katya Young's translation was edited by **Dr. Nicholas Young** and Bernard Cafferty's was edited and typed by **Jacqueline Levy** who also assisted in checking the final typescript. **David Levy** acted as overall editor with the responsibility of merging Krogius' material into a cohesive volume. The proofs were checked by **Kevin O'Connell.**

Contents

Foreword

By Boris Spassky

Nikolai Krogius is well-known to chess lovers. His debut in major events was made in the RSFSR Junior Championship in 1948. Since then Krogius has become a Grandmaster, has twice held the title of RSFSR Champion and has become a regular participant in the USSR Championship and various international events.

I should also like to observe that of the generation of Soviet chess players who came onto the scene in the fifties, quite a number are active in tournaments, but it is comparatively rarely that any of them makes an attempt in the literary field. Krogius has set a good example to our Grandmasters and Masters, especially since his work has turned out to be full of good sense and interesting thoughts.

The author has not followed the traditional method of chess literature, which consists in the concrete analysis of positions from the opening, middle game and endgame, but has tried to shed light on the problems of contemporary chess from the point of view of human psychology.

It is difficult to overestimate the significance of psychology in chess, for it is not only knowledge, but also character, attention, will and, on occasion, the player's mood which determines the outcome of a game and its artistic value. And such occurrences as time-trouble, mistakes and blunders! Don't they happen in almost every game? And yet very little has been said about their nature and how to avoid them.

Krogius raises these important and topical questions and makes authoritative suggestions on ways of solving them. This is not surprising, since the author, besides being a chess expert, is also a scientist in the field of psychology.

Every innovation faces great difficulties, and one could argue with quite a number of the theses of the book. But we must not expect the impossible. The author has a serious (if as yet unfinished) discussion with the reader about how the chess player thinks at the board, how he reacts to his successes and failures and how he tries to avoid mistakes. And this is what is so attractive and so valuable about Krogius' book.

I think that numerous chess fans of every possible level of attainment and tournament experience will read this book with great interest and will more than once stop and think about their chess ambitions, joys and disappointments.

Becoming a chess player, attaining mastery of the art of chess, is a difficult and thorny path. I think that Krogius' book will be of great benefit to chess players in developing their skill. This discussion of the human element in chess is long overdue.

Preface

This is a book about chess. But the reader will look in vain for the traditional analyses of combinations and opening variations. I want to speak about those who actually create the combinations and carry out the analysis, that is, about those who play chess.

It is said that Bronstein, while preparing his challenge for the World Championship, hung a big photograph of Botvinnik, the World Champion, on the wall of his study. Such a training method, even if somewhat peculiar, shows once again what great importance expert players attach to the overall (and not just in relation to chess) study of the opponent. This is because the successes and failures of a chess player depend not only on his knowledge and tournament experience, but also on his self-control, persistence and other qualities. That is why I invite the reader to acquaint himself with a number of questions about the psychological preparation of a chess player.

As yet this is a little-studied aspect of chess, but one cannot underestimate its significance for practical play. I have not set out to make a comprehensive analysis of psychological preparation; I have just tried to bring to the notice of chess lovers some of the main points of this problem. The chief purpose of the book is to try and raise the curtain on some new questions and show how a chess player fights, worries, thinks, doubts and, on occasion, makes mistakes.

It is possible that some of my statements will appear disputable. This is natural, since this is a complicated subject—the psychology of man—and it is too early to put a full-stop after our discussions of a number of the questions that we broach.

If, however, the thoughts expressed in this book make the reader think about his own creativity and take a critical look at the reasons for his wins and losses, it will be the best possible appreciation of the author's work.

Introduction

Psychologists on Chess

The chess player expects that psychology will help him by revealing the intellectual qualities needed for more successful play, and by demonstrating how to control the formation and development of these qualities. Psychological investigations will also define rather more personal problems, and so, if we analyse the peculiarities of a competitor's play, we can determine the most suitable training methods for that player, we can help him to study effective methods of calculation and we can help him to overcome problems such as recurrent time trouble. In this way psychological research may and should be utilized to improve the player's performance by developing and maintaining his sporting abilities.

That is not all. Not only is psychology of use to the chess player, but chess itself has a considerable interest for general psychology. Chess has recently come to the attention of students of cybernetics, mathematicians and scientists who are interested in the role that the game plays in forming a man's character—its beneficial effect on his mind, his determination and his senses. They view chess as a convenient model for the investigation of man's creative processes; in learning the secrets of chess they see a way to the understanding of the riddles of man's creative activity. However, at the moment, the success of scientists in creating computer programs that play chess is rather limited, the reason being that until recently the programmers have ignored the specifically human aspects of chess (the role of emotional factors and the importance of intuition), confining themselves solely to the logical analysis of chess theory.

The difference between the human player's thinking and the "thinking" of the machine are well illustrated in the works of the Soviet psychologists O. Tikhomirov and V. Pushkin, who noticed that in many of the computer programs the search for a move proceeds by way of reducing the number of variations to be examined. Man thinks differently. Initially, he too rejects the unsatisfactory variations, but if his intended move does not satisfy him he immediately widens the scope of his search and analyzes new possibilities.

The need for a different approach to the problem of perfecting machine play

was indicated by the Academician* V. Glushkov: "In order to master the programming of the most complicated problems in the sphere of man's intellectual labours there is, perhaps, no other way but to investigate the process of human reasoning." Work has already been undertaken in that direction, for example there was the match between a Soviet and an American computer program in 1967 and there are also the interesting proposals advanced by Botvinnik in his book "Computers, Chess and Long Range Planning."

In connection with the intensive research being done in programming, the question arises "Will chess cease to exist once computers have learnt how to play well?" If one is speaking theoretically it must be admitted that an electronic super-grandmaster can be created since chess is a system of finite information, even if this finite information is very great. However, we should not work on the supposition that there will be electronic champions, we should turn to the actual living ones, this is all the more advisable since the material already collected in the field of chess psychology interests both chess players and computer scientists.

The first investigation in this field was made by the French psychologist A. Binet and dates from the year 1894. Binet was studying blindfold play and collected some very interesting data from which he drew the correct conclusion that the visual images of chess players bear a mainly conceptual character. Thus, for instance, some master players were unable to answer off-hand a question about the colour of a particular square on the board. However, Binet himself was apparently not too well up on the finer points of chess and he believed the assertion of one of his subjects that he could calculate five hundred moves ahead.

In 1925 the competitors in the Moscow International Tournament were subjected to psychological investigation and N. Dyakov, E. Petrovsky and P. Rudik wrote a book about their experiments. Lasker, Reti, Tartakower and Torre were amongst those who submitted to these experiments. The chess players, who were being compared with non chess playing subjects, were found to have highly developed, dynamic qualities of concentration and reasoning, as well as having a specific chess memory. The authors proposed a so-called "psychograph" of a chess player—sixteen qualities which, in their opinion, determined success in play. Many of their recommendations are indisputable, for instance self-control, the ability to integrate one's thoughts and disciplined determination. Some of their proposals, however, are debatable. They assume, for example, that the development of a chess player's reasoning is not directly related to the general level of his cultural development, but practice has overwhelmingly demonstrated that this opinion is incorrect and that a high general culture helps to develop chess playing ability in a remarkable way.

* i.e. a member of the U.S.S.R. Academy of Sciences

Similarly the authors' assertion that they did not discover any real talent common to the greatest players could be attributed to the narrowness of the methods employed in the investigation.

The well known chess master and psychologist Blumenfeld has also made a significant contribution to the assessment of the psychological questions involved in chess thinking; he has demonstrated that the chess player's thinking is rich in vividness and that it has an exceptional emotional content and intense determination. Blumenfeld noted the practical character of chess thinking in that the thought is directly linked to the action; the time limit in tournament play intensifies the thinking process and compels the mind to work in the most economical manner.

Blumenfeld was the first to suggest a number of interesting methods for the psychological investigation of creativity in chess. For instance he introduced the practice of noting the time taken for each move, which has now become very popular as a method of recording the player's thoughts during the game. Blumenfeld also tried to investigate the intuitive forms of chess thinking. In this respect special attention should be given to his assumptions about the emergence of intuitive conjecture, which depends upon the retention in the memory of images of similar positions. In all, Blumenfeld made many very practical recommendations, for instance he advised that if a move is forced it should be played, and only then should the player make a deep study of the resulting position, and not vice versa. He emphasized that in calculating, one should not rely solely upon visual concepts, as they are less tangible than the direct impression of the position on the board; thus it is necessary to check every move, however obvious it may appear from previous study.

In recent years various works devoted to chess psychology have been published. The American Grandmaster Reuben Fine in his book "The Psychology of the Chess Player" examines the creativity of Morphy, Steinitz, Emanuel Lasker, Capablanca, Alekhine, Euwe, Botvinnik and other great players, by applying Freud's analytical concepts to their lives. Fine explains the development of chess skills by the role played by "repressed" instincts and other assumptions of Freudian psychoanalysis which are hard to believe. Unfortunately Fine did not utilize his own rich experience of tournament play in writing this book.

Also of interest are the investigations into the potential of young players using tests proposed by the Czech psychologist L. Cherny. The subject is asked, say, to move a knight from QR1 to every other square of the board as quickly as possible. After the completion of this problem black pawns are placed on QB3, KB3, QB6 and KB6, then the knight is once again moved to every square except those occupied by, or attacked by, the pawns. In these and other tests a stop watch is used to record the time taken for the solution of the problem; the number of errors and the accuracy of the solution are considered as are the

persistence and determination of the subject. Although the Cherny tests may not provide sufficiently complete and objective material with which to assess the aptitude of the player, they do deserve attention along with other methods. It is interesting to note that experiments conducted by Cherny several years ago correctly predicted a great chess future for Hort, yet the trainers did not regard him as the most promising player in the group of guinea pigs!

Chess players on psychology—the question of style.

Valuable material is provided for the psychologist in the views of leading players, as expressed in their comments on their own games, in their articles and in their books. In analyzing this material we must make allowances for the fact that chess masters generally are not professional psychologists and therefore their use of technical terms is not always justified from the scientific point of view. Furthermore, they are none too keen to relate their experiences and thoughts. Alekhine complained with justice about this: "I think it would be in the interest of millions of chess followers and also the game itself if, when annotating their games, the masters spoke a little more openly about the motives impelling them to choose certain moves."

On the other hand, when a player recalls the psychological aspects of a game we can almost certainly count on hearing the true and sincere evidence of an expert.

Emanuel Lasker was the first to realize that behind the moves of the chess pieces there is concealed a human being with his own character. Lasker understood that it is impossible to learn the secrets of a chess contest without the human element, without the player's psychology, his experiences during the clash, his idiosyncracies and his preferences. To Lasker chess was, above all, a struggle between two personalities, two intellects. He maintained that "It is two human beings who fight on the chess board, not the wooden pieces", and he studied the style, the weak and strong points of his opponent's play, in detail in order to apply his conclusions to actual play. Often he tried to play moves that were not, objectively, the best, but which were the most unpleasant ones for a particular opponent.

In an interview Lasker once said: "A game of chess is a contest in which a variety of factors apply, therefore it is extremely important to know the strengths and weaknesses of the opponent. For instance Maroczy's games show that he defends cautiously and only attacks when forced to do so; the games of Janowski show that he may have a won position in his grasp ten times, but as he is reluctant to finish the game he is bound to lose it in the end. We can see that much may be obtained from the attentive study of the adversary's games."

Lasker skillfully exploited the psychological peculiarties of his opponents, forcing upon them the kind of game that was alien to their tastes. Lasker was the first to suggest that chess style is the reflection of personal characteristics and he

demonstrated the validity of this hypothesis in his games. Lasker's method was not fully understood by his contemporaries many of whom commented on his inexplicable "good luck" in chess, almost as if he possessed hypnotic powers. In recent years the concrete psychological approach to the study of one's opponent has received a wider application.

It is true that, even before Lasker, the French master Arnous de Riviere asserted that the character and temperament of a player may be determined from his play and that "personality reveals itself in the style of play". However, this casual emark was not taken up and went unnoticed.

Lasker proposed a detailed classificiation of styles of play and indicated the following categories:

(1) The classical style. A plan is not chosen at random, but intelligently, in keeping with the principles of common sense.
(2) The style of the automaton. Always making stereotyped moves which are stored in the memory.
(3) The solid style of building up the position and awaiting the opponent's error.
(4) The style of inviting the opponent to err.
(5) The combinative style.

One can dispute these classifications. For instance, the concept of common sense is rather wide—if it means merely the correct evaluation of a position by intuition then the designation of such appraisal to the representatives of only one style is hardly correct. Lasker does not use consistent principles to govern his divisions, in some cases he uses different character traits (such as the tactic of enticing or waiting for the opponent's errors), while in other cases he uses the quality of logical reasoning (stereotype, combinative etc.). In spite of all these controversial points Lasker's attempts to systematize styles of play has not lost its significance even today. After all, it was only in 1925 that he first challenged the traditional divisions of style into combinative and positional.

Let us consider how far the methods of assessing style (the most important overture to the individual preparation for the opponent) have progressed to the present day. Apart from some success in practical application, (for example the Spassky-Tal match in 1965 and the Spassky-Geller match of 1968), the investigations have not made much progress—it is still often the case that only two styles, combinative and positional, are described in chess literature.

To the first of these categories are assigned those players who indulge in sharp, tactical play containing sacrifices and combinations. It is held that players exhibiting a combinative style possess highly developed powers of creative imagination and the ability to make far reaching, concrete calculations; their imagination is particularly obvious in the middle game where the large number of pieces creates a great variety of possible moves. Anderssen, Morphy, Chigorin, Alekhine, Tal, Larsen and Bronstein are all reckoned to fall into this

category.

Players of the positional style reveal a more solid and quieter approach to the game. Their play is characterized by a faith in the general principles of strategy and their evaluation of a position is based on logical conclusions. Their creativity relies on a belief in the basic guide-lines which is modified by any peculiar conditions of the position, and concrete calculations play a comparatively minor role in their mental processes. It is characteristic of positional players that they regard chess as a scientific discipline having definite guiding principles. Steinitz, Capablanca, Rubinstein, Botvinnik, Smyslov and Petrosian are regarded as the leaders of the positional style of chess.

Recently a third style of chess creativity has been described, which has been dubbed "universal". It is really a fusion of the positional and combinative elements in play. Spassky and Keres are both regarded as displaying this style.

It would seem that at the moment the traditional classification of styles of play is not based upon a serious study of the players' creativity. This classification has played a positive role in the development of chess culture and even now it has a certain positive significance: it has made it possible, if only in a general sense, to outline the way to study the individual peculiarities of players, but today that is not enough. One of the basic flaws in the existing classification is that the division of styles is based on principles that are too general—strategy and tactics. It follows that the creativity of players is characterized in an inflexible manner and many essential factors that differentiate their play are not revealed. Within each grouping we can discern significant differences in the players' psychological features, in their imagination in analysis and in their technique of calculation. The attempt to analyze these components of creativity in more detail is hindered by the traditional characterization of style by strategy and tactics.

Let us compare two combinative players, Tolush and Nezhmetdinov. Nezhmetdinov usually calculates concrete variations conscientiously and with precision, but Tolush's ideas are more often based upon an intuitive vision for combinative threats. Starting with the existing definition, that combinative players are strong in concrete calculation, it could be assumed that Nezhmetdinov and Tolush are not really so different in their approach to calculation, but in reality it seems that Nezhmetdinov's calculations may be trusted in general while Tolush's solutions must first be checked for accuracy of calculation.

The existing classification does not lead to a more clearly differentiated understanding of players' styles, nor does it provide the basis for a more detailed characterization of players' skills, and this may lead to miscalculations in training and to wrong decisions concerning the correct tactics for tournament play. It is accepted that the positional player is better at giving a general appraisal of a position, but that the combinative player can evaluate the concrete

elements of the position with greater accuracy. Yet Petrosian, a supposedly positional player, is almost faultless in his execution of tactical operations. It was Spassky who correctly drew attention to the fact that the opinion that Petrosian is weak in combinative imagination is a great error. Petrosian does not appear to be an exception—Capablanca, Schlechter and other positional players have excelled by relying on their strength for concrete analysis.

It is clear that the concepts of "combinative" and "positional" style are not entirely precise nor sufficiently detailed. It is not even clear what we mean by the term, "player's style". Generally, in the wide philosophical sense of the word, style describes the total of methods and means of discovery applied by the individual with relative consistency.

Let us try to consider this in a less abstract way as regards chess. Take a situation on the board where a forced winning combination is possible. Any experienced player will find this combination and we should not be able to discern any difference in its execution by the various players. It is only possible to demonstrate an individual style when the position contains not only one, but several apparently equal, efficient methods of play. Thus, individual style is revealed by problematic positions. At the same time the individual player possesses a certain consistency in his way of assessing many similar positions. It is quite easy to discover definite preferences in all stages of the game in almost any master, so style is a relatively constant factor in a player's positional judgement.

From this we may assume that a player's style is a consistent, individual manner of judging problematic positions. Individual style is determined by many factors; by the type of thinking, by qualities of determination and concentration, by the emotional state and by the player's character. Common characteristics can be found in the styles of individual players and so it is correct to speak of the existence of groups of players with relatively similar styles.

We should also consider the fact that a particular style is not a completely static phenomenon. Style is perfected, it develops. For instance basic changes have appeared in Spassky's style in recent years, as Korchnoy has noted: "Having started as a positional player he sparkled with tactical talent after his entry into international play, but for almost the last five years* his play has become more universal. In regard to the number of defeats per year Spassky has begun to approach the 'unbeatable' Petrosian."

In chess literature there are disagreements about the characteristics of the development of the styles of Keres, Boleslavsky and Larsen. It is more often the case that a player is saddled for a long time with a relentless, unchanging appraisal of his creativity. We have the example of Simagin whose play reflected significant changes, but for decades he was called a "brilliant combinative" player despite the fact that he himself objected to this description on many

*i.e. since about 1963.

occasions. The reason for this static attitude to the development of style is partly explained by the difficulty of analyzing style in general, but this difficulty is increased by the generalized and indistinctly defined current classification of styles.

The most noticeable changes in style can be seen in the games of young players, where contemporary chess pedagogy experiences certain difficulties in suggesting the correct individual approach, again because of the too general criteria underlying the traditional classification of styles. However, the problem of creating a new classification of styles will remain insoluble until the individual components of this question have been fully investigated. These include the classification of the volitional and emotional capabilities of the players and of the content of their logical thought processes.

During recent years I, myself, have conducted some investigations into this problem, I attempted to single out characteristic types in the reasoning activity of the players, based on a comparative analysis of their peculiarities in logical and intuitive forms of thinking and imagination. The reader is referred to the book "Problems of Creative Psychology"*, where an article on this question has been published.

LASKER

Lasker's ideas on the necessity of psychological preparation for the individual opponent and, in connection with this, the problems of investigating the players' styles, are topical questions to this day. Moreover, as the general quality of play has risen considerably and a substantial levelling in the difference of the strength of players has taken place, psychological preparation has acquired a more important meaning. A player who disregards the psychological factors can no longer count on successful results. It is clear that the ideas advanced by Lasker concerning chess styles demand further serious investigation.

Lasker also made some interesting observations about the qualities of chess thinking and about the structure of the thought processes involved in selecting a move, and he named efficiency as an essential component of a player's thinking. In considering the relationship between art and logic in chess Lasker wrote: "Only a perverse taste can prefer the unnecessarily complicated to the simple. From two moves which lead to the same goal the sensible person will choose the more direct, the more clear and the less paradoxical."

He also criticized some so-called "brilliant" games, demonstrating that their authors, distracted by extraneous effects, had in essence eased the opponent's position: "Similar instances remind one of a battle, where the dead are resurrected only for the purpose of defeating them once again".

Lasker noted, however, that the choice of a move is not solely a logical conclusion based on the principles of strategy and calculation, but that it is also

*Published in Saratov in 1968. No English translation is yet available.

a peculiar application of the theory of probability—knowledge of the opponent's tastes permits one to anticipate his reply with a greater degree of accuracy. In such a way, in Lasker's view, one combines the concept of chess both as a psychological battle and as a game of common sense based upon conclusions drawn from theory.

CAPABLANCA

Lasker's famous rival, Capablanca, did not distinguish himself by such a deep psychological insight. He played the "opponent" less often but cared more about his own plans. Capablanca's games reveal the totally rational character of his thought—"nothing superfluous or artificial" was the slogan of the Cuban player. For this reason Capablanca's creativity contains a rich store of instructive material, which allows us to judge his methods of rational thinking over the board. In fact he indicated the following methods that guided him during the process of playing:

(1) The need to attend to the co-ordination of the chess forces in play; pieces and pawns should complement each other in their operations. Capablanca wrote "Many players try to attack while their pieces are scattered all over the board and their actions cannot be co-ordinated. Ultimately such players search, in surprise, for the point in the game where they made their mistake. One must co-ordinate the actions of one's pieces as this is the fundamental principle of the whole game".

(2) Choosing the most efficient solutions; this relates to an efficient use of resources in defence as well as attack. The mobilisation of the greatest possible number of pieces is feasible only in attacking the king, and Capablanca was especially careful to save time when activating his pieces: "Every move which gains or saves a tempo must be considered immediately".

(3) The chosen move should not be delayed, but should be carried out on the board; "You should also be confident about your decisions; if you think your move is good then make it, experience is the best teacher. Having once thought of an idea and decided that it is good, many players fear to make it. Wrongly! You must decide and without hesitiation play what you think is good."

ALEKHINE

It was Alekhine who expanded on Lasker's opinion that it is necessary to know the opponent's psychological characteristics. Alekhine's compilations of the characteristics of his contemporaries were based upon a thorough study of his rivals' personalities, these characterizations are exact, reliable and serve as a practical guide to action. Let us illustrate this with an excerpt from Alekhine's remarks about Capablanca: "From that moment in the game where exact

science gives way to pure art, it is then that those qualities, which have given rise to Capablanca's almost legendary fame, shine at their brightest; most impressive is his exceptional speed in comprehending the position and after that his intuitive feel for positions which is practically flawless. However, these two qualities, which with correct application should have raised their possessor to previously unattained artistic heights, led Capablanca, surprisingly, to the opposite conclusion, to a blind alley, to the conviction that the art of chess was close to its end, that it was nearly exhausted. How could this happen?

"To answer this question correctly it is necessary to consider the psychological dangers that lie hidden in the first of Capablanca's qualities mentioned above. There are obvious advantages afforded by speedy comprehension (which in Capablanca's case was the ability to see almost simultaneously the whole group of tactical possibilities which are present in every complex position), but these advantages of economy in thinking and self-confidence also contain an element of danger: one may erroneously believe that the good moves which are seized upon immediately, because of a good knowledge of the position, are necessarily the best. As a consequence of this one's creativity loses as much in depth as it gains in ease.

"As a result of all of these observations and conjectures I came to the apparently paradoxical opinion that at the moment of our match (1927) the tactician in Capablanca was significantly inferior to the strategist. Consequently, one must not take Capablanca on trust in the middle-game, i.e. each of his tactical plans must be checked carefully, as the possibility of an oversight on his part cannot be ruled out."

These observations helped Alekhine to exploit Capablanca's mistakes in the match for the World Championship. His psychological characterization of the Cuban Grandmaster proved to be amazingly precise and an analysis of the games of the match reveals that it allowed Alekhine to anticipate his opponent's plans with a substantial measure of accuracy.

Alekhine's comments are very interesting, especially so when he warns against the danger that negative character traits can emerge when a player regards his own intuitive assessment as likely to be both correct and final. Alekhine's understanding of the psychological nature of chess went beyond that of Lasker; he considered it necessary not only to consider the individual style and character of his rivals, but also to anticipate their own psychological preparation directed against himself. Alekhine understood not only the beneficial effects of such preparation, but also the way in which it could be used against him. For instance, in preparing for his World Championship match against Capablanca, he realized that the Cuban would probably try, as Black, to exploit the rather risky play that Alekhine adhered to at that time. After the match Alekhine wrote: "As Black I employed the same method of simplification that Capablanca used in defence". Although this method was new for Alekhine its

psychological effect completely justified its use in the contest.

Alekhine's approach found followers amongst his contemporaries. As an example I recall an episode concerning Grandmaster Averbakh, which took place when we were both being trained. Whilst inspecting Averbakh's card index I discovered in it, along with notes on the creativity and excerpts from the games of possible future opponents, a notebook headed Y. L. Averbakh. Preparing a chess dossier on oneself is not a rarity, but rather a very efficient mode of preparation, logically derived from Alekhine's opinion that it is necessary to anticipate the direction that the opponent's preparation on theoretical, stylistic and psychological lines will take.

Alekhine emphasized the educational role of chess. He assumed that it is impossible to achieve great success at chess without training the positive qualities in a player's character and eliminating the negative ones. Alekhine himself is a model in this respect. Reti wrote of him: "Even at the beginning of his chess career everyone was amazed by the richness of his imagination and the tense exertion of determination in his violent attacks. The fact that he denied his own talent induced his admirers to fantasize about his talents, but he always subordinated his talent to reason and this helped him to attain the highest degree of mastery." Alekhine frankly said "I developed my character by playing chess; firstly it teaches one to be objective—a player becomes a great chess master only by realizing his own faults and failings."

Unfortunately, Alekhine wrote only briefly about the special features of the thought processes involved in choosing a move. His conclusions are discussed in detail in chapter 1.

RETI

Reti also made a number of interesting observations about the nature of a player's thought processes. As a man with an abstract turn of mind Reti emphasized the role played by general evaluation in chess thinking. He warned against too much concentration on concrete calculation, against the naive attempt to explain a master's art as merely the development of his ability to calculate. His remarks may be too dogmatic, but they do not contradict the concept of the visual nature of thought in relation to chess, but show that these pictures may be quite distinct.*

Reti wrote: "The uninformed think that the superiority of the chess masters rests in their ability to calculate well ahead. Such players ask me how many moves ahead do I normally calculate in my combinations and are very surprised when I reply (truthfully) that generally it is not even one." Yet if we may not rely upon calculation how are we to choose a move? Reti assumes that "all players from the weakest to the strongest possess principles, of which they may or may not be aware, which guide them in the choice of moves. Perhaps a weak player

* see chapter 1 (pages 16-17)

has only rudimentary principles . . . such a player is simply satisified if he succeeds in saying check to his opponent."

It is curious that the first programmers of chess playing computers overlooked these important observations made by Reti. They tried to solve chess problems by sifting through variations, by trying endless, concrete calculations. These attempts soon revealed their unsuitability.

TORRE

Interesting data about the mental states of players are contained in the works of Spielmann and Torre. Torre deals in detail with the problems involved in developing a style. He indicates that there are four stages in the development of a player: (1) Manner; (2) Individuality in play; (3) Style; (4) World class style. Torre emphasizes thought in particular, although the creativity of every master must be individual and original. Yet this originality in play must be based on all that has been accumlated in the development of chess culture by the experiences of many players.

BOTVINNIK

Soviet players have studied and developed those methods of psychological preparation which were outlined by Lasker and Alekhine. Botvinnik was an important figure in this process—he developed his own system of preparation and training, which involved elements of great interest from the psychologist's point of view: (1) He drew up a personal, psychological characterization of the opponent; (2) He created maximum work capacity during play; and (3) He developed a certain psychological mood for each contest.

Botvinnik conducted a well-informed, all-round psychological analysis of his opponents' play. He not only noted their merits and defects but also the seemingly unimportant details, such as the "long range" moves often overlooked by Euwe. Botvinnik possessed a rare ability in that he did not limit himself to compiling an exact characterization. Rather he also converted his conclusions into concrete opening schemes and a general manner of conducting the battle which was subjectively the most unpleasant for his opponents. The depth of his understanding of his opponent as a human being was felt by both Smyslov and Tal in their return matches with Botvinnik.

By reason of his own character traits Botvinnik was not inclined to trust his intitial impressions, but preferred to amass a sufficient amount of psychological observations before drawing a conclusion. Possibly because of this he conducted his return matches with considerably more confidence than the first ones.

Long ago Botvinnik realized that it is psychologically difficult for a man to adjust at once to a new activity, for instance to a tournament game. Botvinnik therefore always took a walk before the round in order to attune himself to the coming struggle, to mobilize his force of determination and to cut himself off

completely from everything that was not concerned with the game. In earlier times he regularly arrived at the tournament hall ten to fifteen minutes before the round. These activities helped him to detach himself from extraneous distractions and allowed him to concentrate solely upon the game from the moment the clock was started.

Botvinnik correctly pointed out that it is only in a relaxed frame of mind that one can labour successfully over the board. Through special training methods he learnt how to struggle against incipient adverse emotions. Yet Botvinnik's equanimity at the board does not indicate that he was different. He always had a certain amount of fighting spirit in the best sense of the term—he considered that he was obliged to fight until the end, to put all his ability and nervous energy into the game. At times he lost games in the region of the 11th-13th rounds because of growing tiredness, but in general the principle of playing with complete concentration was justified by his results.

Botvinnik made a close study of the problems involved in a tournament regime—the need for a methodical approach to the analysis of adjourned games and the conditions which lead to time trouble being amongst them. The methods of improvement that Botvinnik developed became the basis of training for Soviet players for many years.

However, as Averbakh pointed out, Botvinnik's training programme did not always have desirable results since it was copied without question by trainers and masters alike, despite Botvinnik's warning that: "It is possible that this system of preparation is unsuitable for some players. Every master should follow it with care and apply it with reference to his own individual peculiarities and habits". An example of this is seen in an important question that arises during training—how long before a contest should the training period end and how many days should be given over to resting? Using his own experience Botvinnik has said that training should cease five days before the tournament, but it became apparent that in practice this does not suit everyone. There are players who step into the rhythym of tournament play at once—for them the five days of rest is useful; but there are others who usually start a tournament slowly and lose valuable points whilst warming up—instead of rest they would be well served by playing serious training games.

Much also depends upon the awareness of the trainer. Bondarevsky managed to detect in Geller and Spassky an inclination to engage in battle rather lazily at first, so on his advice Geller gave a tiring simultaneous exhibition with clocks against Candidate Masters on the eve of his match with Smyslov (Moscow 1955), while Spassky did not stop training right up to the start of his match with Tal (Tbilisi 1965). As a result, both of Bondarevsky's proteges were in excellent sporting form from the beginning of the contest.

CHAPTER 1

The Chess Image

What is the chess image?

The study of the peculiarities of a player's thinking is perhaps the most important problem in chess psychology. Part of this problem involves determining the typical defects in a player's thinking activity and attempting to find a way to increase the efficiency of his thought processes. To a considerable degree a chess player thinks in terms of images. What do we understand by the phrase "chess image" and what are its characteristic features?

There is no unanimity as to the definition of a chess image. The psychologist Malkin wrote: "In the course of a game one accumulates a large number of chess images, or in other words, typical positions* about which one has formed an assessment. These positions are an essential part of the language with the help of which the master composes his 'poems'. In the course of a game the calculation of variations is necessary primarily for the transfer from one typical position to another."

It is quite obvious from this statement that in the author's opinion the main characteristic of an image is the element of generality—the chess image is not only a visual picture of the position on the board, but it is also the assessment of the typical position in the sense that the image is a generalization which takes into account the peculiar relationships between the pieces and their possible moves. The concrete positions themselves which occur in the course of establishing relationships between particular elements of the situation (for example, during calculation) are not regarded as images. Here the visual side of the image is disregarded.

Some other investigators are of a similar opinion. Reti quotes Tarrasch's and Rosenthal's opinions to prove that visual elements in thinking are of a subordinate character. Tarrasch wrote:

"A real chess lover, whose thoughts are completely absorbed in the combinations and plans which arise in the course of the game, differs from a

* Krogius frequently makes use of the phrase *typical position*. By this he means a position that embodies one or more easily recognized motifs. Each motif will suggest something to the player, for example if there is an open file on the board a player would consider, amongst other things, moving a rook to that file.

beginner in that he does not see a wooden piece with a horse's head, but rather piece having the property of moving in a certain way, a piece which is equivalen to approximately three pawns and which stands ready to start an attack and s on. The chess lover does not see a wooden toy; he does not see what the piece i made of; all he sees is the significance of that piece as a knight. The deeper on penetrates into a combination, the less one's eyes notice the material of th chessboard and the pieces. All of the chess player's attention is concentrate inside himself and even if he casts his eyes on outside objects he does not reall register them. Here is an example. I cannot say whether the chessboards which were used in the Dresden Tournament (1892) in which I participated were mad of cardboard or wood, but I can reproduce (on a board) almost all the games played in that tournament."

The French Master Rosenthal once said to Binet "You ask me about visual imagination? My answer depends on the sense you attach to this expression. I see the chessboard as one sees the street on which one walks without paying much attention to it: when one opens one's wardrobe one knows where all the things are in spite of the fact that one does not see them. The same applies to the moves one makes on the chessboard."

These opinions show the significance of the qualities of generality and abstraction in a chess player's thinking. Are we then entitled to draw the conclusion that the visual and the notional, the unique and the general are opposing polarities in chess thought?

I would accept the opinion that a chess image must contain some degree of generality. The elements of generalization, however, should not be separated from their visual foundations. They arise as a reflection of the actual content of a situation. In the course of the formation of a chess image a selection from the perceived elements of the position occurs. Thanks to this fact the image reproduces not all, but only the most essential elements.

Neither Tarrasch nor Rosenthal reject the visual aspect of a chess player's thinking: they only describe the selection of the essential elements and the discarding of the insignificant ones (for example, they do not notice the size, the form or the material that the board and pieces are made of, but their consciousness isolates the functional properties of the pieces and squares and their possible trajectories of movement).

The squares and pieces are thus reflected in one's mind not on their own, but as carriers of the ideas of the position. In chess images one can clearly observe the unity of the abstract and the concrete, the sensory and the logical, since ideas and assessments are directly expressed in terms of moves and variations.

Alekhine also paid attention to this. He wrote: "The player is not trying to visualize the whole board with black and white squares and black and white pieces; what he is trying to do is to recall only some characteristic move or the configuration of some part of the board."

The most striking point in this quotation is the mention of a "characteristic" move, i.e. a concrete, visual element which plays the role of carrier of the idea of a position and its assessment.

Alekhine's opinion on the reconstruction of games and positions is confirmed by the experiment of Blumenfeld and Pushkin. The subjects as a rule, reproduced quickly and precisely the ideas essential to the assessment of a position or to the carrying out of a combination (e.g. pawn structure, a strong knight or an attacking position for the queen), while at the same time the other pieces, which were placed as if by the way, were forgotten or were not remembered precisely. The unity of the visual and the general in the chess image should be regarded not as a mechanical connection, but as a dialectical relationship and as an interlocking of those two sides of cognitive activity. The great psychologist, Academician Ananiev wrote: "The elements of an activity which are reflected in the imagination are not arbitrary; their subjective content is imprinted on the memory by reason of their relevance to the task and aims in hand. For this reason there is no conflict between the tendency to generalization and the formation of concrete visual images; on the contrary, the former enriches the latter through its close connection with the objective significance of the material."

This central thesis of the interconnection between the sensory and the logical in the structure of mental imagery, is supported by the results of our observations and experiments.

It has been established that a master conducting a simultaneous display on twenty-five to thirty boards would notice the disappearance of a piece deliberately removed from the board. From discussions with masters and from experiments, I have ascertained that they do not remember the exact position of the pieces in all the games but they go by their content: a plan or a tactical operation. In thinking the position over with the piece missing the master finds a discrepancy between past and present evaluations, and so he looks for reasons. As a result he reconstructs the visual picture of the whole position and the loss of the piece is discovered.

The fact that generalization helps to enrich visual ability was shown by an experiment with Candidate Masters: they were shown two positions, one after the other. One of the positions was a complex position from a practical game, while the other was from a composition, with a large number of pieces on the board. The subjects quickly reproduced the position from the practical game, which had a definite relevance to ordinary play (a characteristic pawn configuration and the presence of a typical plan for the forthcoming battle). The reproduction of the problem proved to be more difficult. Most of the subjects (nine out of ten) did not succeed in reproducing the position of the pieces precisely; it lacked the logical inter-relations typical of practical play.

On the other hand, precision of perception and a well-developed sensory side

of thinking enrich notional content and constitute an attribute essential to it. In this context we carried out the experiment of showing a typical position from the King's Indian defence which occurred in the game Taimanov-Najdorf, Zurich 1953. Similar positions were known to the subjects and they fulfilled the task efficiently: they found the best play for Black and White and showed the typical combinational themes.

In the next exercise a similar group of subjects were shown the same position but with the colours reversed and the pieces arranged in mirror-image fashion. The notional content of the resulting position was identical to that of the previous one, but the change in the colour of the pieces and the squares they occupied led to difficulties in answering the same questions. The subjects took, on average, ten minutes longer to assess the possibilities correctly.

Thus, the chess image is characterized by a unity of meaning and sensory structure. A chess image is always an assessment of a situation or its structural elements expressed in the concrete form of the action of the pieces on the board.

The degree of generalization in chess images varies, and can be looked at from two aspects: (1) The development of the player; and (2) In relation to the objective complexity of the position in question.

Generality, in the chess player's thought processes, is built up in the course of his attainment of mastery and his acquisition of knowledge. Acquaintance with the principles of the strategy and tactics of chess stimulates the development of the logical component of thinking. Binet was justified in holding that the growth of the chess player's strength accompanied definite stages in the development of his faculty of abstracting from concrete material.

The element of generality of a chess image also depends on the complexity of the position on the board. The player evaluates a multitude of positions using his knowledge and practical experience, even though some of these positions may be quite different to any he has previously encountered. In such cases he knows approximately what to do and how to proceed as these positions give rise to more generalized images. However, a considerable number of positions cannot be adequately assessed purely by comparison with earlier known ones. Some elements in the assessment can be taken from previous experience—the characteristic position of an individual piece or the familiar threat of a fork—but as yet they are mere fragments of a future, general assessment which will be a more concrete image, differing substantially from the image of the typical position.

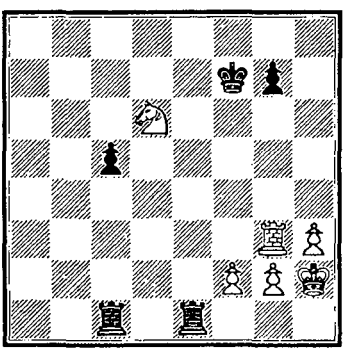
The necessity for greater abstraction in more complex positions is due to the difficulty (in many cases the impossibilty) of basing one's move primarily on the calculation of concrete variations. In simpler positions, such as those containing an easily discovered forcing variation, the representation of the position also takes the form of an image, albeit of a significantly lower level of abstraction.

Let us now consider the active qualities of images in chess thinking. From this point of view we shall distinguish between three types of image—retained, inert and forward.

The retained image.

This is the transference of an assessment of a past position, or of the action of separate pieces, in an unaltered form to a new situation that has arisen on the board. In this way the past continues its activity into the present to the extent of edging out reality. When a retained image occurs the player's thought has become static, his ability to switch his attention has become reduced.

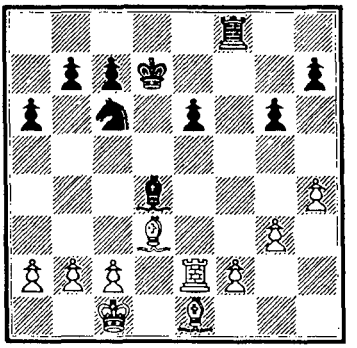
Let us examine the ending of the first game in the Tal-Gligoric Match (Belgrade 1968).



The White position is not an enviable one, Tal has just taken the queen by **37 N×Qch**, but even this is insufficient compensation for his loss of material. Koblentz wrote: "As Tal himself said after the game, it seemed vaguely to him that this move simultaneously attacks the black rook on K1—he reckoned on winning the rook and pawn ending after recovering the exchange, but the blow struck empty air. Two moves earlier Gligoric's rook had moved (from K1) to K8 with the deadly threat of mate."

The game concluded with the moves **37...K-K3 38 R-N6ch K-Q4 39 N-B5 R-N2! 40 N-K3ch R×N! 41 P×R R-B7! 42 K-N3 P-B5 43 K-B4 P-B6 44 P-K4ch K-B5 45 R-QR6** On 45 K-K3 comes 45...K-N4! **45...P-B7 46 R-R1 K-Q6 47 Resigns.**

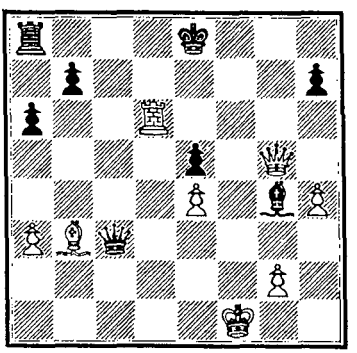
A similar cause—the mental slip of assuming a piece is on its old square—was the reason behind Tal's miscalculation in his game with Rossetto, Amsterdam Interzonal 1964.



Tal (White) has a clear advantage because of the two bishops and Black's isolated KP. Rossetto played **23...B-N2** and Tal replied **24 B-K4?** He had not overlooked Rossetto's next move, **24...B-R3ch**, but had intended to meet it with 25 P-B4 P-K4 26 B×Nch K×B 27 R×P R×P 28 P×R B×Pch and now, with the retained image of Black's bishop on KR3 still in his mind, even though he knew that his rook was *en prise* to the bishop, Tal had planned on playing 29 R-KN5, which seemed to him to block the check from the bishop and force Black into 29...B×Rch 30 P×B when White is a piece ahead.

When Rossetto actually played 24...B-R3ch, Tal realized his previous mistake and played the only move possible: **25 B-Q2.** The game continued **25...N-Q5 26 R-K1 B×Bch 27 K×B N-B6ch 28 B×N R×B** and the rook ending was eventually drawn.

Ilyin-Zhenevsky recorded similar cases as long ago as 1928.

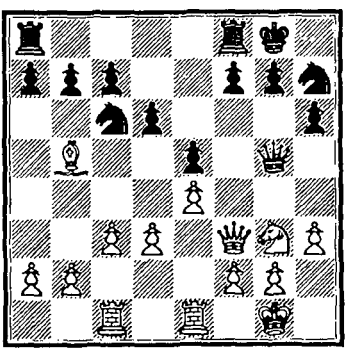


In this position (Ilyin-Zhenevsky—Nenarokov, Moscow 1922) White has a decisive attack. There followed **1 B-B7ch K-B1 2 Q-R6ch? K×B 3 R-B6ch K-N1** and suddenly it is Black who has the advantage. In his preliminary analysis White had only considered 3...K-K1 4 Q-B8ch K-Q2 5 Q-N7ch and 6 R-B8.

"Why did I overlook such a simple move as 3...K-N1.?" wrote Ilyin-Zhenevsky. "Quite simple: Look at the starting position; there Black's KN1 square is attacked by two pieces—the bishop at QN3 and the queen at KN5. In calculating my combination I formed a false impression of the position by thinking that the king could not move to KN1."

Some important characteristics of the former position, such as the control of the square KN1, were mentally transferred to the new, changed situation in an unaltered form. For example, White could have maintained all the advantages in his position by playing even Q×B on his second move, but the retained image, the conviction that he had firm control over the KN1 square, restricted his ability to transfer his attention and made it difficult for him to appraise the position objectively.

The next position (Ilyin-Zhenevsky—Nenarokov, Moscow 1923) is apparently a similar case.

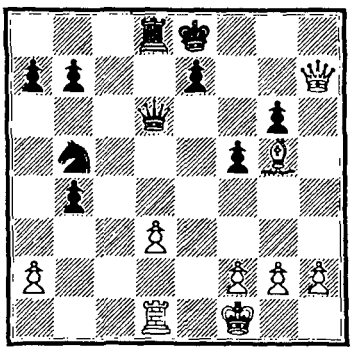


Ilyin-Zhenevsky commented: "I decided to open the KB-file by playing **1 R-KB1 P-KN3 2 Q-K3 N-K2.** Now it seemed that nothing stood in the way of my plans and I played **3 P-KB4** quite happily, but the sequal was **3...P×P 4 Q×BP Q×B.** Tt is certainly was not part of my planPI had opened the file but lost a piece.

"You might say that this is just a crude oversight. Yes, it is an oversight, but the psychology of this error is interesting. Having conceived my plan I looked at the board and saw that the black queen on KN4 and the unguarded bishop on QN5 are separated by a firm obstacle—the pawn at Black's K4. This idea

became fixed firmly in my mind, so firmly that, even as the black queen took the white bishop it appeared to me that it had jumped over the pawn."

Another example of the negative influence of a retained image in making a decision is White's play in the game Sozin-Kirillov, Moscow 1931.

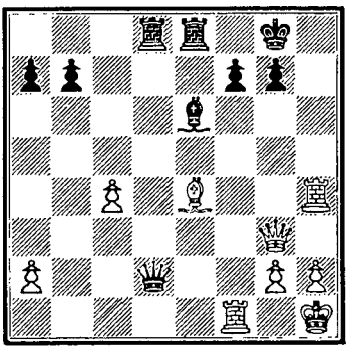


There followed **26 B×P?** Sozin wrote of this move: "To some extent the oversight is understandable from a psychological point of view, White did not consider the possibility of the reply 26...R-Q2 in his calculations, because it was previously impossible due to the mate (Q-N8)." 26 R-K1 wins easily, for example, 26...Q×QPch 27 K-N1 Q-K5 28 Q×NPch, or 26...P-K4 27 Q-N8ch. But after White's mistake the game ended in a draw: **26...R-Q2 27 B×Q** Not 27 Q-N8ch K×B 28 R-K1ch K-B3, nor 27 Q-R8ch K×B 28 R-K1ch K-B2 29 Q-R7ch K-B3 30 Q-R4ch K-N2, and in each case Black wins. **27...R×Q 28 B×P R×P 29 K-N1** 29 R-K1ch K-Q1 30 R-K7 loses to 30...R-R8ch 31 K-K2 R-QN8 32 B-B5 P-N3. **29...R-R2 30 P-B4 K-Q2 31 K-B2 N-B2 32 B-B3 N-Q4 33 B-K5 R-K2 34 R-KR1 R-K3 35 R-R7ch K-B3 36 P-R3 N-B3 37 R-QB7ch K-N3 38 R-N7 N-N5ch 39 K-B3 N×Bch 40 P×N R×P 41 R×KNPch** and the draw was inevitable.

In this example the image of the previous position was so persistent that Sozin had the firm belief that his former assumptions still held good.

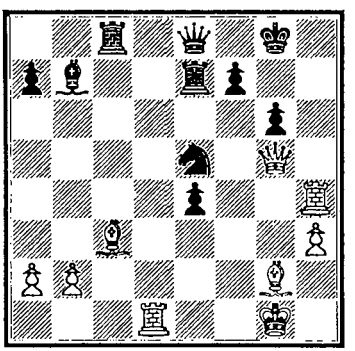
The retained image is sometimes caused not by a single piece and its functions or by an individual square on the board, but by a group of pieces or squares with more complex relationships. Having been the objects of deep cogitation during the course of a game it is not only individual pieces, squares and moves that remain in the mind in a relatively unchanged form, but also tactical and strategical ideas as well.

Let us examine a position from the game Chekhover-Model, Leningrad 1933



Chekhover wrote: "In this position there is nothing to be gained by 29 B-R7ch K-B1 30 Q-QR3ch because of 30...Q-Q3 31 P-B5 Q-K2. Because of this I mostly considered the continuation 29 R-R7 Q-Q5 30 Q-R4 P-KN3 31 Q-R6 with R-KB4 and R-KR4 to follow, and to avoid a back row mate I played **29 P-KR3**, to which Model replied very weakly 29...Q-K7? Now 30 B-R7ch K-B1 31 Q-R3ch R-K2 32 B-Q3 wins the game at once, but having rejected B-R7 on the previous move I did not examine it again in the current position and played something else. The game finally ended in a draw."

We can see that the conclusion that B-R7 and Q-QR3 were inadequate was so persistent that the peculiarities of the relationships between White's three attacking pieces (queen, rook and bishop) were not seriously considered on the next move, although the situation had altered in White's favour.



Szabo-Bronstein

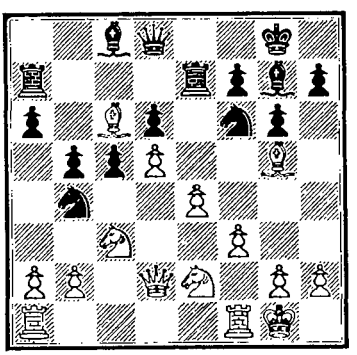
There are occassions, although they are relatively rare, when the existence of a retained image is linked to the appearance of optical illusions of the images of pieces which are no longer on the board. The actions of such pieces in the preceding phase of the game have been so important and have demanded such intense concentration from the player, that when he tries to turn his attention to other elements of the position he finds it extremely difficult to do so, even once the pieces have been exchanged or captured.

In the game Szabo-Bronstein, Zurich Candidates' Tournament 1953, the chief role in White's attack was taken by his black squared bishop. So Bronstein removes it: **36...R×B 37 Q-R6 P-B3 38 P×R R-N2?** 38...K-B2 is better. **39 R-Q8 Q×R 40 Q-R8ch** and White won quickly.

And the motive for his error of 38...R-N2?, closing the KR1-QR8 diagonal that had previously been so dangerous? Bronstein remarks: "Up to this point Black was struggling against the bishop at White's QB3; now he continues the battle with its shadow."

Those examples allow us to speak of the negative manifestations of retained images as an extensive defect in a player's thinking. The negative role of the retained image presents us with a paradoxical situation whereby, it appears, the strong points of thinking—depth and clarity of aim—turn into weaknesses. This confirms the adage that you can have too much of a good thing. What we have seen in the above examples was a violation of the correct sense of proportion between the depth of concentration and dynamic thinking.

The retained image does not, however, always hinder creative thinking. It has a positive effect in that it regulates attention and promotes active self-control. Under such conditions ideas that arose earlier in the game do not become



Novotelnov-Nezhmetdinov

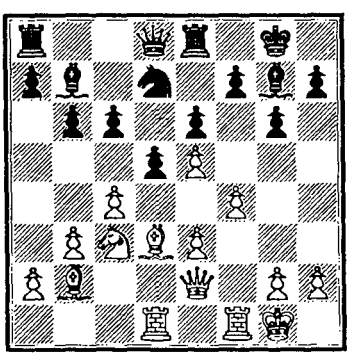
unalterable axioms, but are utilized in a changed form and are applied to the peculiarities of the new position.This manifestation of the retained image is quite beneficial as it assures continuity in thinking. Thanks to this the player can formulate premises which help him to keep to the guidelines of a general plan, making his play more efficient and making each stage of development more likely of success.

The above diagram shows a position taken from Novotelnov-Nezhmetdinov, Saratov 1953.

Here, in reply to 16 N-N3, Black had prepared to sacrifice the exchange by 16...R-K4 17 P-B4 R×B 18 P×R N-N5 with good play on the dark squares. The game continued **16 Q-B4 R-K4 17 N-N3 N-Q6 18 Q-R4 N×NP 19 P-B4** and now Nezhmetdinov carried out the sacrifice that he had decided upon so long ago: **19...R×B 20 P×R N-N5,** giving Black an excellent position with good attacking chances.

In this example, the idea of an exchange sacrifice which arose at move 16 reminds us of preparations made in good time by a considerate host. This idea had been considered by Nezhmetdinov, approved, but postponed for use in the appropriate situation. The presence of a beneficially retained image allows one to struggle successfully for the execution of a concrete plan by adapting it to a fresh situation in the game.

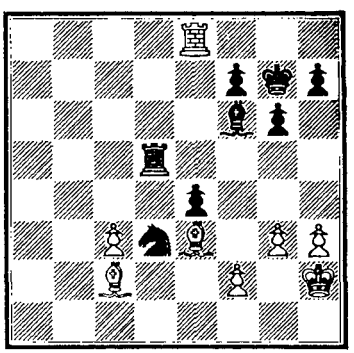
This diagram shows a position from the second game of the Botvinnik-Levenfish match, Moscow/Leningrad 1937.



Levenfish had the idea of undermining White's centre with ...P-B3, but it does not work immediately. Levenfish wrote: "After 14...P-B3 I feared 15 P×QP KP×P 16 P-K6 R×P 17 P-B5 P×P 18 B×P R-K1 19 Q-R5 N-B1 20 B-QR3 Q-B2 21 P-K4 P×P 22 N×P with a strong attack." Keeping this important strategic idea in mind he carried out the following manoeuvres with his pieces: **14...Q-K2**

15 P×P KP×P 16 P-K4! Again White prevents . . .P-B3. **16...P-Q5 17 N-N1 P-QB4 18 N-Q2** And again the intended break is impossible because of 19 P-K6 and 20 P-B5, but the idea does not leave Black. **18...P-KN4 19 P-N3 P×P 20 P×P K-R1 21 N-B4 R-KN1 22 K-R1 P-B3** Finally the original idea becomes a reality and at the most appropriate moment. After **23 N-Q6 P×P 24 N×B P×P**, Black had two pawns for his knight plus dangerous counter-chances.

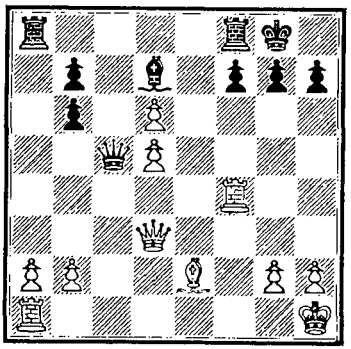
Frequently a previously conceived plan contains a hidden subtlety which will be profitable at some future date, although its immediate execution would yield nothing. In these cases the player makes a mental note as a reminder and occupies himself with waiting maneouvres, in order to camouflage his trap, having created a feeling of security in his opponent. Bronstein's experience is characteristic in this respect in that he has applied this psychological stratagem successfully on several occasions. Particularly memorable are the endings of his games with Reshevsky (Zurich Candidates' Tournament 1953) and Mikenas (33rd USSR Championship, Tallinn 1965).



Bronstein-Reshevsky

38 R-QB8 In great time trouble White avoids 38 P-QB4 because of 38...R-KB4, failing to notice that after 39 R×P N×P 40 R-B4! the knight is trapped. 38...R-K4 would have been the correct response when White still has a minimal advantage but one that is difficult to realize. **38...N×P** Unexpected and pretty. Trying to win at all costs, White now avoids 39 B×N R-Q7. He sets a masked trap and waits with baited breath to see if Reshevsky falls into it. **39 P-B4 R-QR4 40 B-N3 R-R6** Black is intent on attacking both bishops. After making this move Reshevsky offered a draw while Bronstein was sealing his move. This was Reshevsky's third draw offer in the game. **41 B-B5** Threatening mate by 42 B-B8ch K-N1 43 B-R6dis ch. **41...B-K2 42 B×R B×B 43 P-B5 P-K6 44 P-B6 N-K5**

45 R-K8 P-B4 46 B-B4 B-Q3 47 P-B7 B×NPch 48 K-N2 B×P 49 R-K7ch K-B3 50 R×B P-B5 51 K-B3 Resigns.



Mikenas-Bronstein

Already Bronstein has the germ of an idea of giving mate on the back rank, but at the moment White is sufficiently well protected, viz 20...R×P?? 21 R×R Q-B8ch 22 R-B1. And so Bronstein continued normally with **20...Q×P(Q3) 21 R-KR4 P-R3 22 P-QR3** Mikenas must have been relieved to have this pawn so well protected—after all, with White's queen, QR and QNP guarding QR3, what can possibly go wrong on that square? **22...KR-K1 23 B-B3 Q-K4** Threatening 24...Q-K8ch 25 Q-B1 Q×R(R5). **24 R-QN4??** Had Mikenas been more alert he would have found either 24 Q-Q4 Q-K8ch 25 R×Q R×Rch 26 Q-N1, or 24 R-Q4 Q-K8ch 25 Q-B1, but he had lulled himself into a sense of false security over the question of the QRP. **24...R×P!!** Winning at once. **White resigned.**

So with a conscious switch of one's attention to the changed factors in a situation and with a logical comparison between the current and past positions, the retained image has a positive influence on the effectiveness of the thought process, and helps in making a quick and accurate decision.

Two tendencies in thought appear in the paradoxical features of retained images considered above. In some cases the separate moves are viewed as mutually linked elements in the development of the game; such highly developed dynamics of thinking and concentration are the beneficial effects of retained images. In others one notes a tendency to divide the game into isolated phases in which static, unchanging, retained images are mechanically transferred from one stage to another.

What measures then, can be suggested for removing the negative influence of retained images? Amongst the purely chess-based recommendations blindfold play deserves consideration.

It is held that blindfold play is injurious to the health and does no good in developing a player's ability. We shall not quarrel with the correct allegation that concentration on record-breaking displays for sensational purposes does not produce any benefit, but we advise merely a small number of training games. This is not all that tiring for a strong player. Possibly, it is in blindfold play, more than in other forms of training, that dynamic qualities of thinking and attention are most easily improved.

The nature of the game presupposes the need for a constant, accurate comparison of past images with the present position. This demands systematic control and the application of will power to overcome distractions. It is particularly important not to let the exact positioning of the pieces slip from one's mind, and such sluggishness and indifference are incompatible with blindfold play. Also, such training helps the development of combinative vision.

It is worth noting that the most far-sighted trainers use this kind of preparation in their training programmes. At Bondarevsky's suggestion, Spassky, on the eve of his match with Tal (Tbilisi 1965), spent a session playing blindfold chess with eight of Sochi's strongest players. Possibly because of this Spassky played the match with inventiveness from the very start, showing himself to be in no way inferior to his opponent in dynamic thought. In any event he suffered from no optical illusions in this match.

The reading of chess books without the aid of a board is also to be recommended—Korchnoy has employed just this method for some time. Another beneficial exercise is found in training oneself to consider the question: "What has changed on the board after my opponent's move? What is he threatening?" This method has had practical application in the contests of players from Saratov and has had positive results. Some first category players,* using this advice, noticed that they no longer forgot that pieces had moved to new squares, although this failing had been observed in their play before they adopted this training method.

The inert image.

Inert images are characterized by the fact that the assessment of an existing position is held to be the final assessment of the entire game. Although the game continues, mentally it is already finished. The player imagines that only minor difficulties remain before he attains his goal and that these do not require great mental exertion. Thus the present (often incorrectly evaluated) is mechanically

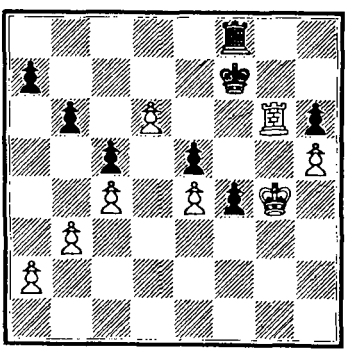
* Elo ratings approximately 1,900-2,000.

transferred to the future, therefore the player's analytical objectivity and his precision in assessing the position currently on the board are weakened. In practice, the inert image appears in connection with an incorrect and hasty inference, so that the material or positional preponderance achieved or the recognition of a well-known type of position that has occurred predetermine the result of the game.

When an inert image appears the player relaxes his attention. The excitement of struggling for the desired result is now replaced by self-confidence and even apathy, as it seems that the goal has been reached. The resulting complacent attitude to the position drives away the feeling of responsibility. The ability to switch attention and the capacity to analyze ahead are sharply lowered and this reduction in mental activity is generally accompanied by errors. It is then quite common that "completely won" positions are not won and "absolutely drawn" positions are lost.

It should be noted that inert images, characterized by their tendency towards a completed appraisal of the position, are marked by a high degree of generalization.

This position arose in the game Petrosian-Korchnoy, Moscow 1963.



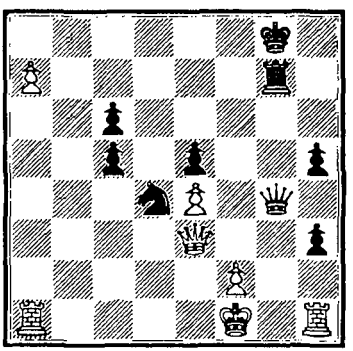
Petrosian described the rest of the game: "For a long time I had regarded my position as a winning one. Thus the whole opening phase of the struggle, when Korchnoy was unable to get out of trouble, had psychologically attuned me to the idea that the ending would be favourable to me . . . and here comes the incomprehensible oversight **35 R×P??** I did not even see the threat . . . P-B6, possibly because it was in contrast to Black's hopeless position. Personally, I am convinced that if a strong master does not see such a threat at once he will not notice it, even if he analyzes the position for twenty to thirty minutes."

After 35 R×P the game continued **35...P-B6 36 K-N5 K-K1** and Black won.

In this example the inert image is seen in connection with Petrosian's final appraisal of the position, therefore he relaxed his attention, having correctly assumed that the game was decided. It was not long before he was punished and his won position became lost. This only reinforces the truth of the chess adage that a game is only won when the point is entered on the score sheet.

Petrosian's assertion that once such a threat has been overlooked it will not be noticed, even after long deliberation, is rather controversial. Of course the inert image is marked by a high degree of stability since it is bound up with the presence of the persistent emotional state of over-self-confidence. Nevertheless, these psychological states are governed by human will and can be overcome by a consciously critical examination of one's plan.

Let us consider other practical examples. Before us is a position from the game Gawlikowski-Simagin, Sczawno-Zdroj 1950.

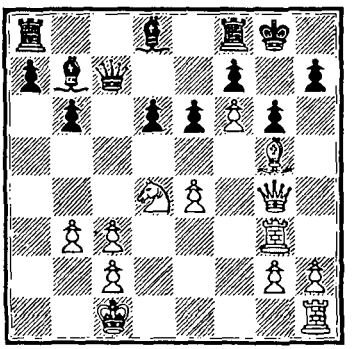


White has a great material advantage. He is the exchange up combined with the unstoppable pawn at QR7. However, Gawlikowski's attention was concentrated solely on one thing, how to safeguard his king? It is true that Black's threats are very unpleasant, but White's evaluation of the present position manifested itself solely in the desire, which was so dominant, to rescue the king, that having played **37 P-R8=Qch K-R2**, White at once continued with **38 Q-QR6 Q-N7ch 39 K-K1 N-B7ch 40 K-Q2 N×Q** and the game ended in a draw. White could have won by playing an unexpected counter-attack with 38 Q-R8ch! (instead of the timid 38 Q-R6) 38...K×Q 39 Q-R6ch etc.

Gawlikowski was unable to transfer his attention to the new possibilities created by the appearance of a queen at R8. The image of the position shown in the diagram seemed so strong and so stable that having evaluated it White decided to think purely about a means of defence. The move 37 P-R8=Qch was

considered and made with the defensive possibility Q-QR6 in mind and it was not connected with any of the other peculiarities of the position. After the game Gawlikowski said that he did not even consider the possibility of sacrificing the queen at once, as his attention had been fixed only on the dangerous position of the king at KB1.

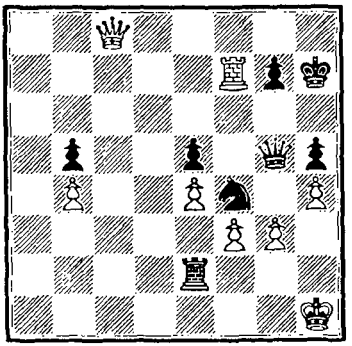
The next example is taken from Ivkov-Vasyukov, Yugoslavia-USSR Match 1962.



The Yugoslav Grandmaster has a decisive attack. The chief agent in this is the pawn at KB6, as Black is unable to remove the pawn at once, because it is protected by the bishop. Having assessed the position as a winning one (which is quite correct), Ivkov then paid no attention to possible changes in the situation (mainly the removal of his chief advantage—the pawn at KB6) and he made an immediate attempt to win the game. There followed **19 R-R3 P-KR4 20 R×P??** A dreadful mistake. 20 Q-R4 and P-KN4 made a strong attack still possible. Ivkov's miscalculation was seen in the next few moves **20...Q×P 21 R-R8ch K×R 22 Q-R4ch K-N1 23 Q-R6 Q-R8ch 24 K-Q2 Q×Nch 25 K-B1 B×BP**. Unexpectedly it becomes clear that White's strongpoint (the pawn at KB6) has been wiped out. Hence the foundations of White's position fell, precisely because its invulnerability had been assumed by White under the influence of the inert image.

Confidence in the permanent nature of the factors involved in evaluating a position and the inadequate transference of attention, are often the psychological reasons behind a player's failure to see so-called stalemate combinations.

The following diagram is a position from the game Evans-Reshevsky, USA Championship 1965.



White is in a bad way. Black has an extra piece and a threatening attack on the king. Apparently these factors seemed so obvious to Reshevsky that in calculating his next move he assumed that they would hold good in the future. Otherwise his attention would have been drawn to the minor, but material alterations which will take place after his intended capture on KN3, namely that the white pawns will be immobilized, and the king will be in a stalemate corner. Because of this the unconnected pieces on QB8 and KB7 gain a new possibility—of offering themselves in sacrifice to force stalemate.

Reshevsky's belief in the victorious outcome of his attack was so powerful that his attention was fixed on the obvious advantages of the position on the board and he carelessly captured the pawn at KN3. After **48...Q×NP** the deficiencies of his play, caused by inertia, were soon obvious. There followed **49 Q-KN8ch K×Q 50 R×Pch** and it became necessary to agree to a draw as there is no way out of the stalemate. Had Reshevsky exercised even a minimum of care and considered the new characteristics of the position arising after 48...Q×NP, he would doubtless have seen his opponent's combination and played otherwise, for instance 48...Q-N3 49 R-B8 Q-K3 50 P×N R-K8ch and 51...Q-R7ch with a quick win.

It has been noted that inert images appear most frequently in the mind of the player who has obtained the better, or even a winning position. Having decided that everything is now clear, such a player does not take account of possible changes in the position, even the most radical or paradoxical changes, but is guided blindly by the persistent image of the favourable evaluation of the position in unchanged form.

At the first appearance of a persistent inert image, even a very strong player will automatically transfer the current factors to a future position and will approach the assessment of future circumstances with a fixed idea about the position. Consequently, inert images make the search for new aspects of a position extremely difficult and they reduce the elements of creative imagery to a minimum. In contrast to retained images which appear in a double role (both positive and negative), inert images are of one kind only, (since they are conditioned by violations of the dynamics of thinking), and they always appear in the role of negative factors.

Deficiencies in thinking and the transfer of attention are connected to volitional character traits, and so such deficiencies in the player's attention can be successfully eradicated by the development of proper self-control and self-criticism. In the struggle against inert images one must train oneself to look for paradoxical situations, to search for exceptions to the rules and to develop concrete thinking. In training games it is beneficial to select difficult opening variations, not with the result as the main goal, but rather the search for hidden resources of defence. Despite himself the player is thus imbued with a spirit of scepticism in regard to the seemingly most obvious assessments. An attentive study of the games of Lasker and Korchnoy may also be of help.

Levenfish wrote about the highly developed critical nature of Lasker's thinking: "It was very interesting to analyze with Lasker. How many differing and often unconvincing assessments of Lasker's style have I heard and read during my life . . . I shall mention only one undeniable trait— his scepticism and faith in defence. If we were analyzing a position that I thought was bad for Black, Lasker would at once search inventively for slight counter-chances and it turned out that the variation was playable and attempts at refutation did not succeed."

It may be helpful to withdraw one's thoughts from one's plans during the game and cross the front line in order to think on behalf of the opponent. If you succeed in immersing yourself in the interests of your opponent you may discover ideas which frequently escape attention in one-sided deliberation. This guarantees a more objective approach to the assessment of a position, thus avoiding a pre-conceived assessment.

The forward image.

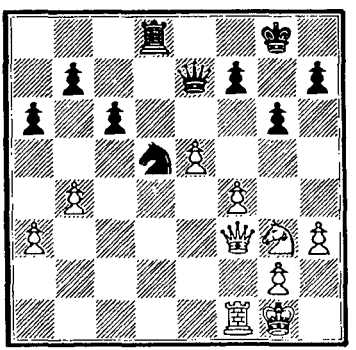
The forward image arises when considering possible future changes in the situation. The role of future events in the game is over-estimated to such an extent that they appear to the player almost as if they already exist in the present. Blumenfeld wrote: "As far as I can tell from my own experience, there are moments when the image created by visual concepts crowds out reality."

The negative role of forward images manifests itself in two ways. In the first,

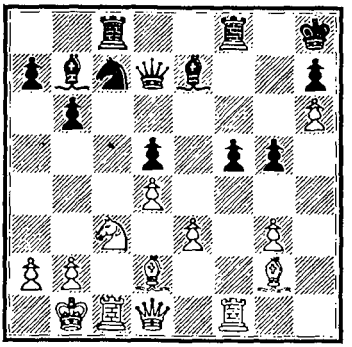
the opponent's possible threats (often non-existent anyway) are accepted as already present—they are exaggerated and transformed in the mind into gigantic threats. The future possibilities become an obsession and are treated as real factors in the assessment of the current position.

In other cases too much significance is attached to possible future active manoeuvres by one's own pieces. The fact that their realization is as yet inadequately prepared is not sufficiently appreciated. On the contrary, mirages, created in the imagination, are mechanically used to assess the position on the board. The failure to transfer one's attention adequately from the supposed to the real leads to cases where players are carried away by madcap schemes.

This diagram shows a position from Bondarevsky-Flohr, Stockholm Interzonal 1948.

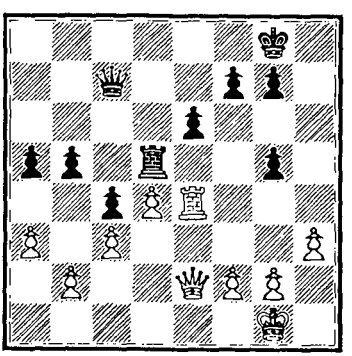


White has definite attacking chances. However, possibly the most unpleasant of them, the advance of the KBP, is no danger to Black at the moment. This is clear if only from the variation 28...R-K1! 29 P-B5 Q×KP 30 P×P BP×P 31 Q-B7ch K-R1. This is the true assessment of the position. Yet the possibility of White playing P-B5 made such a strong impression on Flohr that he disregarded the other aspects of the position and made a move dictated by one thought alone, that he must prevent the advance of the pawn. There followed **28...P-KB4 29 P×Pep N×P(B3) 30 P-B5**. Unexpectedly, Black falls out of the frying pan and into the fire, for which we can blame the forward image: prophylactic measures taken against possible future threats made the threat quite real now. After **30...P-KN4 31 N-R5 N×N 32 Q×N** White gained a clear advantage.



Let us now consider a position from the game Capablanca-Alexander, Nottingham 1936. Black played **26...Q-K1?** In regard to this Alekhine wrote: "Not only does this lose valuable time, but it also permits the white reply which is the first step to freeing the QB. Meanwhile, as there were no direct threats to the opponent, Black himself could have begun a Q-side attack by means of 26...B-R3 with the advance of the QNP to follow. The outcome of the game would have been entirely unclear." It is quite likely that Black's defensive measures can be explained by his overrating the illusory threat of Q-KR5. Play continued **27 P-KN4 Q-N3 28 P×P R×P 29 R×R Q×Rch 30 K-R1 R-B1 31 Q-R1**, and White had the initiative.

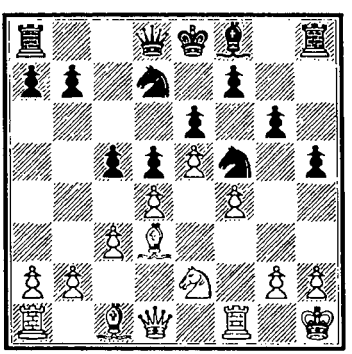
Similarly, in the game Spassky-Reshevsky, Amsterdam Interzonal 1964, Reshevsky voluntarily denied himself the only active plan ...P-QN5, fearing the undermining move P-QR4 which actually would not have been very promising for White.



Here Reshevsky played **33...P-R5**. After **34 Q-K3 Q-Q3 35 P-KN3**, White's advantage had increased since there is nothing for Black to do; he had deprived himself completely of any counterplay in his belief in the possibility of the threat P-QR4.

A similar case can be observed in the game Krogius-Zhukhovitsky, Sochi 1967, where after the moves **1 P-Q4 P-Q4 2 P-QB4 P-K3 3 N-QB3 N-KB3 4 P×P P×P 5 B-N5 B-K2 6 P-K3 P-B3 7 N-B3 QN-Q2 8 B-Q3 O-O 9 Q-B2 R-K1 10 O-O N-B1 11 QR-N1 P-QR4 12 P-QR3 N-N3 13 P-QN4 P×P 14 P×P N-K5 15 B×B Q×B 16 P-N5 B-N5 17 B×N P×B 18 N-Q2 P-KB4 19 P×P P×P,** the Black threat ...Q-N4 and ...N-R5 monopolized White's attention. These threats seemed so dangerous and real that White switched over to defence: **20 P-R3? B-R4 21 R(N1)-K1? N-R5 22 P-N3** and Black had the advantage. White should not have succumbed to the influence of the forward image, but should have examined the variation 20 R-N6 N-R5 21 R(B1)-N1 Q-N4 22 P-N3 where White gets his attack in before his opponent. For example 22...N-B6ch 23 N×N B×N 24 R×P Q-R4 25 N-N5 Q-R6 26 Q-B4ch and 27 Q-KB1.

In the above examples we see cases where the opponent's future threats were over-estimated and the possibilities of one's own position were under-estimated. Then we see a voluntary and largely unjustified refusal to undertake active operations and a transition to defence. Such self-induced passivity leads to a considerable reduction in productive thinking and the player starts to tilt at windmills. In such cases an inadequate transference of attention is discovered, basically the attention is fixed on the distant future and in fact it by-passes the position on the board. These aspects of the forward image were neatly summarized by Tarrasch's aphorism—"The threat is stronger than its execution".



The other side of the forward image is often in evidence. One's own chances are exaggerated and one's attention is directed solely to the examination of possibilities for one's own pieces. The opponent's possible replies are underestimated.

The above diagram shows a position from the game Krogius-Bronstein, Tbilisi 1967.

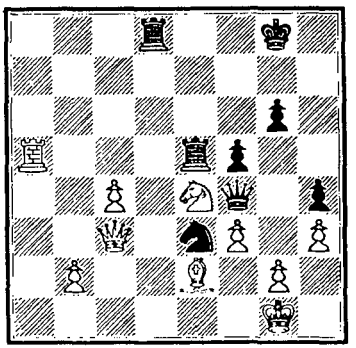
In this position Bronstein planned a line of attack on the enemy king by means of ...P-R5 and, if possible, ...P-B3 and ...P-KN4. Bronstein's attention centred on these possibilities to such an extent that he regarded these threats as practically the only ones with any relevance for the position. Thus he played **13...P-B5?** This move is bad if only because it frees White in the centre and on the Q-side. Bronstein's attention was fixed on what he regarded as the very promising chances of attacking the white king. However, a realistic assessment of the position demanded that Bronstein maintain the tension in the centre. Black should have played 13...Q-N3.

The game continued **14 B-B2 Q-B2 15 N-N1 O-O-O 16 N-B3 B-R3 17 Q-K1 QR-K1 18 P-QN4 B-N2 19 P-QR4 P-B3?** Once again Black is preoccupied with unrealistic plans. The forward image of an attack on the white king was so persistent that, even in the position where Black's attack had lost even the slightest prospects of success, Bronstein disregarded the fact that his position had deteriorated and he played the "pseudo-active" advance ...P-B3. His attention was fixed on the mythical attack against the white king. **20 K-N1 Q-Q1 21 R-R2 P-R5 22 B-N1 P×P?** Again Black has made several moves whilst suffering from a forward image of a non-existent activity, the last of these moves is a decisive error. Firstly, White has got the chance of a plan with P-KN3, R-KN2 and then P-KN4, but now he also has a formidable initiative on the Q-side. We emphasize that the sequence of bad black moves is no accident. Bronstein's attention has been in the thrall of unrealistic assumptions for some time. There followed **23 QP×P.**

After the game Bronstein explained that he was only expecting 23 BP×P. Here is the measure of the degree to which the appraisal of the position was subordinated to the influence of concentrating on future desirable changes in the position! In deference to the persistent forward image the opponent's moves were also anticipated to work in the required direction.

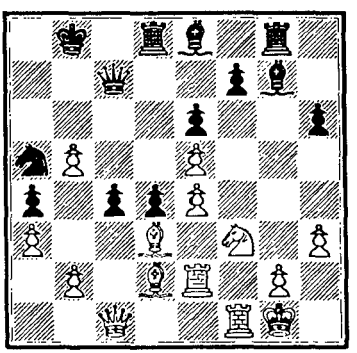
The game ended **23...N-N1 24 B-K3 N-B3 25 Q-B2 P-R6 26 P-N3 P-N3 27 P-R5 K-N2 28 B×N NP×B 29 P×P P×P 30 R(B1)-R1 Q-B2 31 N-Q4 R-R1 32 N-N5 R×R 33 Q×R** and **Black resigned.**

The forward image often appears in connection with a conviction that the opponent is forced to capture, in reply, a sacrificed or exchanged piece. Here is a position from the game Liberzon-Taimanov, Tbilisi 1967.



Here the negative advance image is observed in Taimanov's calculations. He believed that the variation **35...R×N 36 P×R R-Q8ch** with a win, was forced, and in fact that is how the game ended. Black had not seen the move 36 Q-B6 which would change the assessment of his plan. It should be mentioned that seeing such intermediary and quiet moves is psychologically especially difficult, since they are generally linked with the refusal to regain lost material at once or to a violation of the (at first sight) obvious appraisal of the position. After all, for the most part, practice convinces the player of the opposite—of the necessity for a respectful attitude towards material and the principles of strategy. Hence positions which are full of unusual ideas lead even the most original players astray at times.

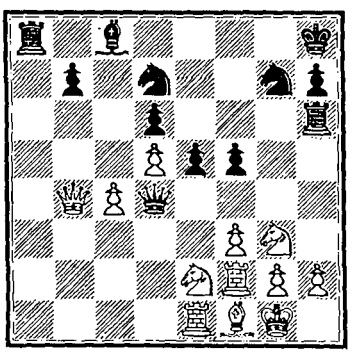
Let us examine a position from the game Nimzowitsch-Alekhine, Dresden 1926.



Black played **35...R-QB1**. Alekhine wrote: "This unnecessary finesse puts the win in doubt. Black should play 35...B×NP 36 B×N Q×B 37 B×P P-Q6 38 B×B P×R and he has an exchange for the pawn. However, it seemed to me, mistakenly, that the move made in the game is simpler and after four moves would give me a winning ending."

There followed **36 B×N Q×B 37 R-QB2 B×NP 38 B×P P-Q6 39 R-B3 P-Q7 40 Q-B2** "A defence that I had not foreseen" Alekhine recalled. "I calculated only upon the capture of the pawn which gave a win in every variation." The game continued **40...B×B 41 R×B R×R 42 Q×R R-QB1 43 Q-K2 Q-N3ch 44 Q-B2 Q×Qch 45 K×Q R-B7 46 K-K2** and it soon ended in a draw.

At times the persistence of attention that is centred upon future positions is so great that reality is almost completely ignored. A pawn, a piece, remain *en prise* and the player does not see the direct danger. He thinks in terms of the future and makes the grossest one-move oversights. Master Ryumin recalled just such an incident.



"Deep in thought I suddenly saw a combination - 26...N-B4, 27...Q×Rch and 28...N-Q6ch regaining the queen. I grabbed the knight, made the move and then stopped the clock, without even waiting for Capablanca's reply."

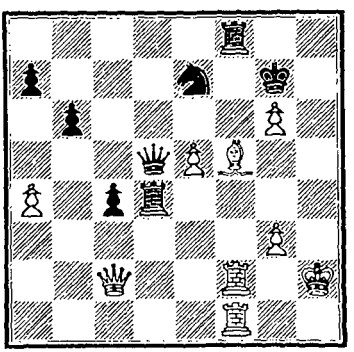
Ryumin had not noticed that Capablanca's preceding move attacked the queen—his attention had been fixed on forecasting future operations. Thus, an excessive obssession with thinking about the possibly beneficial actions of one's own pieces, also negatively influences the objective appraisal of the position because the strength of one's own position is exaggerated. The field of attention is narrowed and the player's sight, diverted from the rest of the board, dwells firmly on the only idea that is exciting for him. Enthusiasm for the plan is so

great that the player calculates only for himself, as if his opponent did not exist.

The negative forward image therefore appears on two levels in thinking. Deficiency in the dynamics of thinking leads in some cases to superfluous caution ("fear has big eyes" *) while in others it leads to excessive daring and self-confidence and sometimes to the fruitless planning of madcap schemes.

However, we should also note the positive role of forward images in developing the player's imagination. In the creativity of Tal, Larsen, Korchnoy, Nezhmetdinov and other players the workings of their imaginations generally correspond, after critical analysis, with reality. This mixture of imagination and perception, thanks to the conscious transfer of attention, aids the range and precision of calculation and the formulation of original ideas.

This diagram shows a position from Nezhmetdinov-Kasparian, Riga 1955.



In this position Nezhmetdinov conceived a beautiful mating plan. This was strengthened by accurate calculation and was then carried out. The analysis was very difficult in that the position is complicated and double-edged.

There followed **38 B-K6 R-KR1ch 39 B-R3** The significance of the move 38 B-K6 is the variation 38...R×Rch 39 Q×R! R-Q7 40 B×Q. **39... N×P 40 R-B7ch K-R3 41 Q×Nch! Resigns.** Mate in six is unavoidable.

We have shown that forward images may be important elements in developing the ability to foresee events on the board, but what measures should be recommended for the avoidance of the negative effects of forward images?

Blumenfeld made some interesting suggestions: "No matter how strong the visual imagination, it is quite clear that the mental picture is paler than the

* Russian proverb

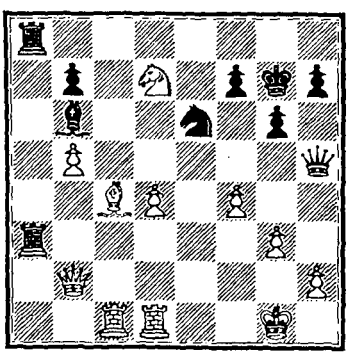
visual impression. Therefore, after the opponent has made a move, even if it was anticipated, one should never make one's reply without thought (except of course, during extreme time pressure). After all, the move has been prepared whilst the *given position existed* in the imagination alone."

When one is interested in a pretty idea or an effective manoeuvre, one should never forget the "prose" of chess life. Before executing a move it is worthwhile to run the eyes over the board once more—perhaps the opponent threatens something simple? In general it is correct to say that a move should be made in four stages: decide on a move, write it down, check it and only then move the piece. In this way even the most obvious idea is more reliably controlled.

To combat the negative manifestations of forward images we recommend a training method with "spaced finishes". No, we are not talking about bicycle races; the idea behind the method is that the player is asked to solve a complicated combination of many moves, without moving the pieces on the board. When he says he has the solution, the board is removed and he is asked to state the exact location of every piece after, say, the second move in the combination, or the fifth and so on.

In principle this method of training has merits in the sense that many forward images arise as recollections of an intuitive nature. In an intuitive recollection the player recognizes the final moment—the realization of an idea, but omits the intermediate links.

The significance of this training method is well illustrated by an example given by Bykhovsky.



Bykhovsky commented: "Studying this position, which was pretty unpleasant for me (Scherbakov was White) I suddenly saw a series of moves 1...N×BP 2 N×B N-R6ch 3 K-R1 Q-B6ch 4 Q-N2 N-B7ch 5 K-N1 N-R6ch 6 Q×N R-R7 7 B×R R×B. The whole variation flashed by in a moment and I consciously

retained only the final position. Having analyzed it I happily found that White had no escape from perpetual check. However, when I began to examine it closely from the very start, I discovered at once that White had a strong reply in 3 K-N2 and after 3...Q-B6ch 4 K×N Black has no compensation for the great loss in material. Anyway there was no real choice, I decided to play **1...N×BP.** To my great relief Scherbakov continued **2 N×B N-R6ch 3 K-R1** Now, whilst deliberating over my move, I saw two variations, one beginning with check by the queen on KB6, but the other with the move R-R7. I tried to make myself reconsider these variations, but I was unable to concentrate, as I could only think how good it was that I had forced the draw and quite a pretty one at that. As a result of these thoughts I came to the conclusion that both variations led to the same goal and played **3...Q-B6ch?**" Then came **4 Q-N2 N-B7ch 5 K-N1 N-R6ch 6 Q×N R-R7 7 B-Q5** and **Black resigned.** If Black had not substituted the vision for his calculation and had fixed the position in his mind after each move then he would have achieved the draw with 3...R-R7 without any special effort.

In examining the dynamic features of chess thinking we unwittingly touched upon the question of its component parts. Let us now turn to perhaps the most complicated form of the thinking process—to intuition.

CHAPTER 2

Intuition in Chess

Intuition is the direct way of reaching the truth—the quick solution suddenly comes to mind. Probably few concepts are to be found that give rise to such lively arguments as does that of intuition, and serious attempts have been made to eradicate its use altogether. This debate has also involved the world of chess.

So—does intuition have a place in chess creativity? On the subject of chess creativity Bronstein, in his book on the 1953 Candidates' Tournament, wrote: "However, there is also a fourth ingredient and perhaps it is the most attractive, although it is often forgotten. I have in mind intuition, or, if you will, chess imagination . . . intuition was and is one of the foundations of chess creativity." Thus Bronstein emphasizes the role of intuition, but simultaneously equates it with the player's imagination.

In his book "The Attack", Panov writes: "Of course intuition is not the correct word. As we well know, intuition is the beloved concept of the foreign idealist philosophy, implying that beneath intuition there is a direct comprehension of truth, something like a revelation from above . . . players must be guided by their instinct for chess, which furnishes them with the necessary conviction of the correctness of say a sacrifice, in positions where it is impossible to analyse all variations."

So Panov downgrades intuition, but emphasizes chess instinct. From what follows it will become clear that this is rather a misunderstanding of terminology, but not a denial that the player can make a combinative decision without making an exact calculation or a preliminary series of linked conclusions.

In Linder's opinion "Every game, from beginning to end, constitutes a chain of mental conclusions, each logically linked to the next". He emphasizes the idea that any game is always a totally conscious process, where anything irrational or unconscious has no place.

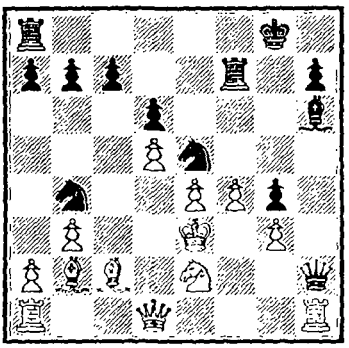
What exactly do we mean by "Intuition"?

Let us first acquaint ourselves with what the Marxist theory of knowledge tells us about intuition, since a correct philosophical understanding of intuition will help us all the more to determine its place in chess creativity. Pavlov said, in one of his celebrated lectures: "I find that all intuitions should be so understood that man remembers the conclusion but not the entire road over which he approached and prepared the conclusion. This is because he did not analyze his way to the conclusion."

The "Philosophical Dictionary" (1963 Edition) states "Intuition plays an auxilliary role in the process of learning. Behind the capacity to 'suddenly' discover the truth, there stands in reality accumulated experience and knowledge that has already been acquired. The results of intuitive knowledge have no need of any criteria of truthfulness (self-evidence etc.) but they are logically proved and have been tested in practice."

It follows from these statements that intuition in general, and in connection with chess in particular, is definitely a component of thinking. As opposed to logical analysis, an intuitive decision reveals only the result of mental operations, which themselves remain unperceived at that moment. In chess creativity intuition appears as a sudden discovery, at which moment the preparation for this decision is not conscious. In an intuitive decision there is an awareness of some kind of result (the image of a series of moves or manoeuvres), but the details, the intervening links in the thought process, are subconsciously omitted. Such a decision is conceived by the player as something whole and integrated. "I grasp it [the position on the board—N.K.] as the musician grasps a chord—in its entirety," wrote Binet.

I especially wish to point out that the objects of intuition may be the combinative as well as the positional elements of the chess game. For examples we refer to the beautiful combination in the game Polugayevsky-Nezhmetdinov, RSFSR Team Championship Sochi 1958; and to the deep understanding shown by Tchigorin in sensing the possibility of an equally balanced struggle of knights against bishops in his famous game against Lasker (Hastings 1895).



Polugayevsky-Nezhmetdinov

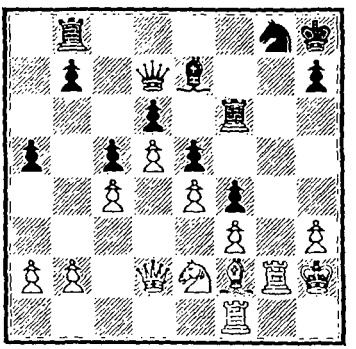
Nezhmetdinov had played the whole game with great energy and force. Now he stunned his opponent with **24...R×P!! 25 R×Q** After 25 P×R, Black wins at once by 25...B×Pch 26 N×B N×Bch. **25...R-B6dbl ch 26 K-Q4 B-N2! 27 P-R4** If 27 N-N1, not 27...R×KNP 28 N-K2 R-KB6 29 N-N1 etc., but 27...N(K4)-Q6ch 28 K-B4 N×B(N7)ch 29 K×N B-B6ch 30 K-R3 P-N4! 31 P-N4 (or 31 Q-Q4 B×Q 32 N×R B-B6! 33 P-N4 N-B5ch followed by 34 ... B×R with a decisive material advantage) 31 ... P-QR4 32 P×P N-B5ch 33 K-N3 N×Pch 34 K-R3 N-B5dbl ch 35 K-N3 R-R6 mate. It was Nezhmetdinov's intuition that led him to conclude that his attack would be decisive—these variations are too head spinning to allow firm calculation. **27 ... P-B4ch 28 P×P e.p. P×P 29 B-Q3 N(K4)×Bch 30 K-B4 P-Q4ch 31 P×P P×Pch 32 K-N5 R-N1ch 33 Resigns**

We shall assume that ascribing intuition purely to combinations and sacrifices is to impoverish the concept of intuition in chess altogether. On the other hand it is not correct to equate intuition with imagination. The player's imagination or his ability to visualize future changes on the board is not necessarily accompanied by a sudden insight into some idea. It may be a precise calculation, or a fully comprehended logical analysis of the devised plan in all its stages.

We should also take a critical attitude towards Linder's opinion. If the whole game is merely a definite and perceivable calculation to its end, then where do imagination and exploration come in? To sum up, we consider chess creativity to be a conscious intellectual effort, which contains, however, unconscious elements.

What characteristics belong to chess intuition? Firstly, we must note the relative speed with which a player makes an intuitive decision at chess. Secondly, a player displays intuition in an arbitary manner, each move is an act

with a definite aim—in some cases it is attack, in others it is defence. Thus the player can not call upon creative enlightenment at a favourable moment, but is surprised by inspiration, as were Archimedes and Newton. At any given moment the player does not need *general* ideas, even though they may be quite original, but those which give the solution to the particular problem. Hence the value of each of a player's ideas depends upon their appropriateness. Had the idea of a queen sacrifice suddenly come to Kotov in his famous game with Averbakh (Zurich 1953), a couple of moves after the possibility of playing the combination, then very likely it would have brought only belated regrets.



Averbakh-Kotov

Kotov won by **30...Q×Pch!! 31 K×Q R-R3ch 32 K-N4 N-B3ch 33 K-B5 N-Q2** As Stahlberg pointed out, 33...N-N5! would be even stronger, preventing White's next move. **34 R-N5 R-KB1ch 35 K-N4 N-B3ch 36 K-B5 N-N1ch 37 K-N4 N-B3ch 38 K-B5 N×QPch 39 K-N4 N-B3ch 40 K-B5 N-N1ch** The time control. **41 K-N4 N-B3ch 42 K-B5 N-N1ch 43 K-N4 B×R** Threatening 44...B-K2 followed by 45...N-B3ch 46 K-B5 N-Q2ch 47 K-N4 R-KN1ch and mates. If 44 B-K3 B-K2 45 B×KBP P×B 46 N×P R-R5ch 47 K-N3 R(R5)×N. **44 K×B R-B2!** Threatening mate in two by ...R-N2ch and ...R-B3. If 45 N×P R-N2ch 46 N-N6ch R(N2)×Nch 47 K-B5 N-K2mate. **45 B-R4 R-N3ch 46 K-R5 R(B2)-N2 47 B-N5 R×Bch 48 K-R4 N-B3 49 N-N3 R×N 50 Q×QP R(N6)-N3 51 Q-N8ch R-N1 52 Resigns** Imagine missing such a beautiful idea on move 30, and then realizing the mistake soon afterwards. The effect would be shattering.

The player is incessantly obliged to seek a solution at the board now, by applying certain voluntary efforts, not to postpone it until later.

This creates exceptional tension in the thinking processes during the game. We consider it necessary to refute Blumenfeld, who in the article "Of Character

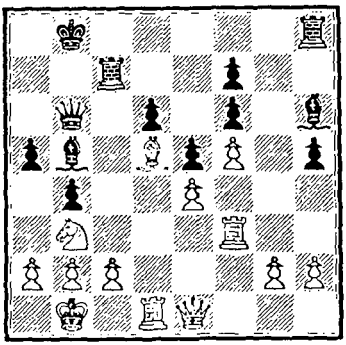
in Chess Thinking" expressed the opinion that intuitive thinking at the board is not deliberate, that chess players think as their fancies take them. By holding such a view we unjustifiably disorientate the player—it follows that you need not strive for the desired goal, intuition will come by itself.

Thirdly, a successful intuitive solution is accompanied by strong positive emotion, a feeling of creative satisfaction, self-confidence and triumph. Bronstein was quite correct when he said: "Intuition gave the prettiest combinations to the art of chess, but as for the players it allowed them to experience the real happiness of creativity."

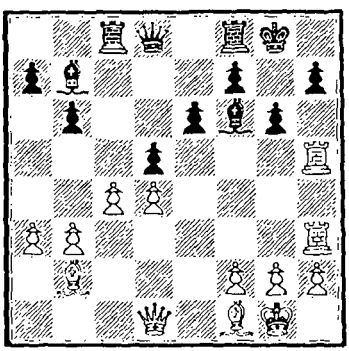
Fourthly, the practical, active character of chess thinking manifests itself in the appearance in the player of an intuitive sense of timing. The player feels, for example, that the moment has come when delay will mean death, that it is exactly now and not later that he must begin the counter-attack, the advance or the pawn sacrifice. This sense of timing is manifested for instance in the feeling of danger which is familiar to many players. Kotov wrote: "To have the knowledge of a future danger in time to avoid it is a guarantee of great success in chess tournaments. Players have called this quality a sense of danger."

Let us now consider the circumstances determining the birth of intuitive solutions during the process of considering a move. We have already noted that intuition plays an auxiliary role in the learning process. The intuitive move is normally preceded by a logical analysis of the position on the board. In this sense, in relation to the conscious search for a move, intuition comes second. However, it is not always a rational process of thinking or a precise calculation of variations that permits one to make the choice. Often the player feels doubtful, he feels dissatisfied when he has considered the variations suggested by logical analysis. The limited time available reinforces the impossibility of utilising only a method of strictly logical operations. At such moments the intuitional mechanism is called on for help. The psychologist Ya. Ponomarev wrote: "The success of an intuitive solution depends upon the extent to which one has managed to free oneself from the stereotype, become convinced that the earlier familiar methods are inapplicable, and when one has thereby retained an interest in the problem." A combination of what are really opposite emotions is observed in the transition from logic to intuition. On one side the player feels dissatisfied with the path taken by his logical analysis (a negative emotion), while on the other he retains his enthusiasm and interest for the search (a positive emotion).

Let us consider examples illustrating the secondary nature of intuition. In the game Krogius-Geller from the 27th USSR Championship, the sudden inspiration of the move N×P arose regretfully after I had become convinced that the many rational ways did not appeal to me, since they left Black with a sound position.



There followed **23 N×P R(R1)-QB1 24 Q×P R×P 25 P-QR3 K-R2 26 R-QN3 K-R3 27 B-N7ch** and **Black resigned.** Now compare this with Bronstein's description of Smyslov's choice of 19th move as Black in his game against Keres, Zurich 1953.



"I thought for a long time", said Smyslov afterwards, "I badly wanted to capture the rook, all the more so since I did not see how White could then win. Just imagine to be a whole rook up for nothing." However, after analyzing 19...P×R for a long time Smyslov preferred another idea and played 19...P×P. This was an intuitive decision, as there could be no question of analyzing all the possible variations--first of all analysis and then the intuitive decision. Smyslov's intuitive reaction was later verified by logical analysis. As Bronstein wrote: "His intuition did not mislead Smyslov, he played the best move as later analysis was to prove. It turned out that after 19...P×R 20 Q×P R-K1 White cuts

off the retreat of the enemy king with the problem-like move 21 P-QR4."

Logical forms of thinking are obviously an essential prerequisite for the inception of intuition as well as being essential in testing the accuracy of an intuitional plan. The player's intuitive ideas are executed in the form of moves or plans on the board, after the fullest possible verification by logical analysis. The philosopher M. Bunger wrote about the necessity of examining an intuitive decision: "It [intuition—N.K.] may dispose us to favour one theory or method, to the disadvantage of others. Yet suspicion is not proof. An intuitively formed hypothesis requires scientific treatment and should be checked by the usual methods . . . Intuition does not relieve us of the need for strict, or at least, the best possible proof."

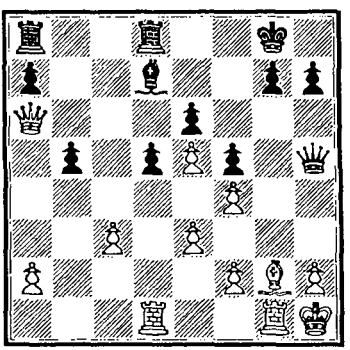
The reader might have gained the impression that I am under-estimating and impoverishing the role of intuition. Not at all—intuition is an important part of the player's thinking, but it should not be exaggerated. Intuition is not a mysterious force, whose origin is inexplicable and whose suggested solutions always prove correct. Intuition is dependent upon the conscious mental effort of the player; it arises upon the basis of conscious logical analysis and is verified by it.

Of course, counter-examples could be cited where an intuitive idea arises immediately after the opponent's move has been played. One would imagine, however, that in these cases the resulting position had already been visualized clearly over the preceding moves by means of both logical analysis of the future position and an intuitive searching activity. Certain mental operations have to be distinguished from intuition—those which are executed automatically (to a certain extent) and almost unperceived in the course of play. Amongst these are, for instance, the exact knowledge of endgame positions, or of an opening position, or of the simplest tactical and technical methods. It is often observed in endgames that the rook is automatically posted behind a passed pawn, or pawns are placed upon squares of colour opposite to the colour of their own bishop, even in time trouble. Indeed, such automatic reactions in themselves represent characteristic habits of chess thinking. Their chief feature lies in the fact that they are carried out almost unchanged, according to a single established model, as if by stereotype. Here the creative factor is missing.

The content of the intuitive process is entirely different. Intuition is a creative process, whereby the new and original are discovered. Although the mechanics of chess intuition apparently spring from a comparsion with similar positions already familiar to the player, this similarity by no means leads to thoughtless repetition according to a known pattern. It should be emphasized that it is impossible to separate the intuitive from the logical part of thinking as they are mutually combined in a single perceptive process.

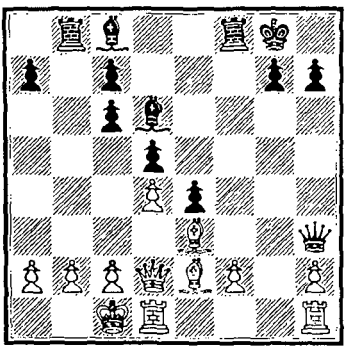
We have convinced ourselves that intuition is not a mysterious revelation from above, but a definite, essential part of a player's thinking. Since this is so, recommendations of ways to develop intuitive abilities are quite attractive for those trying to develop their mastery of the game. Are there any such recommendations?

Here we must dwell on the key problem of explaining the mechanics of intuition which so interests modern science. Let us consider the appearance of intuitive decisions in chess creativity. Firstly, we should familiarize ourselves with Blumenfeld's very interesting remarks: "The situation in the following diagram arose after Black's 21st move in the game Bogolyubov-Mieses, Baden-Baden 1925.



"In this position Bogulyubov found the following combination: **22 B×P P×B 23 R×NPch K×R 24 Q-KB6ch K-N1 25 R-KN1ch Q-N5 26 R×Qch P×R 27 P-B5** with a decisive advantage. Bogolyubov's combination called for considerable calculation and correct assessment of the position. All this is a question of technique and experience.

"The chief value of the combination is in the idea involved in the move 22 B×P. By means of purely schematic thinking and the use of general principles, there is no way of arriving at this combination. No doubt this combination arose because of some association of ideas. The possibility should not be ruled out that the impetus behind the discovery of this combination (even if unconsciously for Bogolyubov himself) was the well-known combination played by Morphy against Bird (London 1858)."

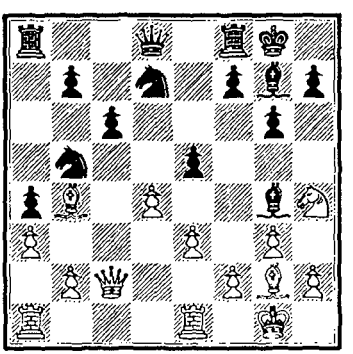


Bird-Morphy

Here there followed **17...R×BP 18 B×R Q-R6!** with a winning attack.

In this way the origin of an intuitive combinative solution is explained by comparing the current position with an idea retained in the memory from past experience. The elements of difference and similarity in these positions appear in the subconscious process of comparison.

Probably the mechanics of comparing the present with past experience remain unchanged in principle even in the case of intuitive ideas of a more general strategic order. In the game Ujtelky-Krogius, Sochi 1967, Black executed an intuitive positional sacrifice of the exchange relying on various past impressions of the value of the King's Indian bishop.

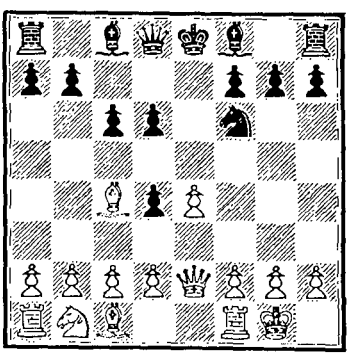


Here, it seemed to me, the increased power of Black's KB would more than compensate for the loss of the exchange. The game continued: **19...P×P 20 B×R Q×B 21 P-R3 B-K3 22 N-KB3 P-Q6 23 Q-Q2 N-N3 24 QR-B1 N-B5 25 Q×P**

N×NP 26 Q-K2 Q×P and White's Q-side was completely destroyed. Black's KB was now able to assist in the advance of the QRP and in a few more moves White resigned.

However, regardless of the supposedly general nature of the appearance of intuitive decisions, they appear in chess in various forms and with great individuality. Thus, for instance, Petrosian's intuition differs substantially from that of Tal or Bronstein. What is the point here? It is highly likely that the difference in the types of intuitive thinking depends upon what type of associations the player is using. We may assume that there are players who at first subconsciously consider the elements which are common to many positions and which therefore confirm the principles of the game, but there are other players who find exceptions and factors which are in contrast to the rules. In some cases we therefore have associations of similar features while in others we have associations of contrasting features.

Let us illustrate this with some examples. In the game Geller-Keres, Zurich 1953 Candidates' Tournament, after the opening moves **1 P-Q4 N-KB3 2 P-QB4 P-K3 3 N-QB3 P-Q4 4 N-KB3 P-QB4 5 P×QP P×QP 6 Q×P P×P 7 P-K4 N-QB3 8 B-QN5 N×P 9 O-O N-KB3 10 R-K1ch B-K2**, there followed **11 Q-K5**. This idea probably did not attract Geller's attention by accident. A similar idea had been seen in his game against Kholmov in the 17th USSR Championship, although in that game Black was able to defend himself successfully by playing several pawn advances and then the manoeuvre ...R-QR2.

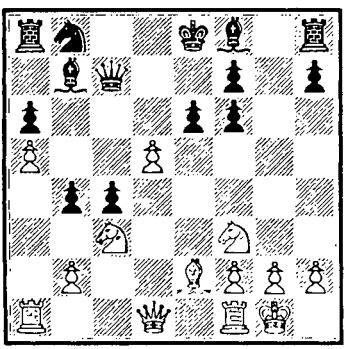


Geller-Kholmov

Here Geller continued **8 P-K5** Better is 8 P-QB3 P×P 9 N×P followed by P-Q4. **8...P×P 9 Q×Pch B-K2** and after **10 R-K1 P-QN4 11 B-N3 P-QR4 12 P-QR4 R-R2!**, Black had freed his position. The game continued **13 P×P O-O 14 P-N6** 14

P×P B-Q3 gives Black a dangerous attack. **14...Q×P 15 P-Q3 B-QN5**, and Kholmov was able to convert his initiative into a win. Note that in the Geller-Keres position 11 B×Nch P×B was strong, and only now 12 Q-K5, threatening N-Q4. After the move in the game Keres succeeded in freeing himself of the pin by **11...O-O!** and after **12 B×N** came **12...B-Q3.** Possibly Geller did not play 11 B×N because intuitively there was an association at work, due to the similarity to his game against Kholmov. Geller decided not to help Keres' Q-side pawns to move, because in the previous game that had worked in Black's favour.

Now let us consider a position from the game Tal-Keller, Zurich 1959.



It may be said with certainty that any player relying upon his previous experience of similar ideas and positions would have played something like 14 N-QR4 N-Q2 15 P×P P×P 16 N-Q4 O-O-O 17 B×P.

Not Tal however. He makes a decision (it is true that it was by intuition since it was impossible to prove anything or calculate through to the end), which was in contrast to his past experience, thereby posing a direct challenge to that experience. He played **14 P×P! P×N 15 N-Q4 R-N1 16 Q-R4ch K-Q1 17 P-KN3 B-Q4 18 KR-Q1.** Such play is no exception with Tal. His games and, let us note in passing those of Lasker, Korchnoy and others, are full of intuitive discoveries, which directly contradict the evidence of past experience. Therefore intuition can be different in different players, even if they are of an equal class of play and are equally talented. Consequently, each type of intuitive thinking has its own merits and its own drawbacks.

How is the player to struggle with the shortcomings of his own feel for the game and to develop his stronger points? In so far as we have dwelt at length on the dependence of intuition on past experience, the answer would seem to be simple. Study more games, read more theoretical articles and a penetrating feel

for the game is guaranteed. In fact it is not all that easy. Capablanca studied chess comparatively little but he possessed the richest of intuitions, while other Grandmasters possess encyclopaedic knowledge but are hesitant and do not trust their intuition. Of course knowledge is a great thing, but the main point is not the amount of knowledge but its sensible organization.

We have stated that intuition is based upon comparisons and associations. This means that one must search consciously for the links between individual positions, ideas and variations; to compare and strive to find their fundamental similarities and differences. Past experience must be actively utilized, given significance and generalized. It is better to have a small amount of knowledge that is flexible, easily recalled and well organized, than to have a mass of separate facts, representing a unique but lifeless chess knowledge. After all, reading all the articles in an encyclopaedia is not the best way to develop the intellect.

Capablanca possessed a remarkable skill for finding the simple in the most complicated and contradictory position. Let us recall the story of how he learned to play chess. "On the third day of watching the game", he wrote, "my father, still a completely inexperienced novice, moved his knight from one white square to another. . . . My father won and then I called him a cheat and began to laugh at him. After a minor quarrel . . . I showed him what he had done. He asked me what did I know about chess? I replied that I could beat him. He said that it was not possible, very likely I did not even know how to set out the pieces correctly. We tried and I won. This was my debut."

It is impressive that after three days observation the four year old boy showed such capabilities in noting the similarity in the movements of the (until that time unknown) chess pieces, in drawing the correct conclusions about the rules and even in grasping that after each move the knight changes the colour of its square.

Obviously the early appearance of such abilities are to be explained by economy in thinking and outstanding intuition, for which Capablanca was later famous. It could be said that this is not a typical example, inasmuch as the Cuban player possessed an outstanding talent, but let us not argue about the significance of genius. Here we quoted an episode from Capablanca's autobiography merely to show what a colossal significance an active synthesizing process has in the acquisition of chess knowledge.

The successful development of abilities relies most of all upon effort, determination and good organization. Therefore, irrespective of the level of innate talent, intuition can be and should be developed. Intuition is best developed by conscious, unremitting effort, whereby both theoretical information and the player's own games are compared and analyzed and generalizations made. Normally, the more one compares past knowledge, the more fruitful is the soil for the development of intuition.

CHAPTER 3

Attention

Among the psychological problems of contemporary chess the problem of attention is central. The significance of the high level of attentiveness needed for the study of chess theory and for the successful participation in tournaments is appreciated by trainers and practising chess players from beginner to Grandmaster.

N. Grekov wrote: "Chess demands . . . a prolonged, a constant concentration of attention. It is quite clear that one can well achieve a winning position, but then . . . as a result of relaxing the tension or failing to pay attention even for a second, turn the won game into a lost one.

"How many such cases there are, not only in off-hand games but also in serious matches, and not only among ordinary amateurs but even with the most distinguished masters! An essential pre-condition to perfecting one's chess is to fight this failing."

The problem of undersanding the psychology of attention in chess is now very topical and important. Serious research in this field will doubtless uncover much that is both new and useful for the general psychological preparation of the chess player and for chess education as a whole.

The belief that a chess player has highly developed powers of concentration is widespread. When a chess player makes a careless slip in his day to day activities the response is often one of quite sincere amazement—how could a man who can successfully calculate long variations have overlooked such a simple matter? Besides, players themselves are, as a rule, convinced of their own capabilities in the matter of attention. This conviction is manifested in the attitudes of many of our colleagues, who regard gross blunders and obvious oversights as being incidentals and uncharacteristic of the chess playing fraternity. Often, after the loss of a game, the loser tries to prove that he played superbly, not just by demonstrating the possibilities open to him during the course of the game, but also by his whole manner. Why, if it had not been for that piece of bad luck, then . . .

Are the mistakes really so accidental that they can not be explained by the master's inadequate experience or his meagre theoretical knowledge? Of course, we do not intend to deny that playing chess has a positive role in developing attention. The sequence of changing events on the board, the necessity of balancing various differing possibilities, even the most trivial, undoubtedly help the development of attention, which is a crucial requirement for success in chess.

It is therefore not surprising that N. Grekov, P. Rudik and other authorities assert that chess is an effective means of combating serious failings in attention such an absent-mindedness. Grekov wrote: "For the man who is prone to absent-mindedness or lapses in attention, the capacity for protracted and unabating concentration developed at the chess board is a precious acquisition.

"On the basis of many years of observation I make bold to claim that several cases of a sharp fall in absent-mindedness in children and adolescents have coincided with the beginning of a serious attraction to chess, and I have no doubt that this happened in consequence of the influence of chess on the psyche.".

This opinion is also strengthened by the experience of teaching chess courses at schools in Leningrad and other places.

Despite the comparatively high level of attention in chess players, blunders and errors occur again and again in tournaments and presumably seem to be incompatible with the level of play of the participants. Here we can explain nothing by reference to ignorance or inattention, and it is simply ridiculous to speak of lack of knowledge in a master when he fails to see, for instance, a one move threat to the queen.

Attempts to explain such extraordinary lapses by time pressure or fatigue are not always convincing. No doubt these two factors do play an important part in the deterioration of attention, but all the same, although they provide fertile ground for errors they tell us very little about the nature of these errors. It would be wrong, after all, to regard the causes of a crime as being a dark night, bad weather, a lonely spot, or other conditions which only favour the creation of an unpleasant situation for the victim.

The explanation behind many blunders and oversights which at first seem to be inexplicable, apparently depends upon a study of the individual peculiarities of the player's attention. As we shall see, these personal, and at times quite typical defects in attention appear most often and with greater force in especially unfavourable conditions—such as during time trouble or fatigue. But before we begin to discuss the various aspects of attention in chess, we must first consider how the word attention is understood by the science of psychology.

What is attention?

Attention is the concentration of cerebral activity on a certain object. This is how the term is defined in psychology.

Since attention is always focused in a particular direction, it automatically excludes other subjects, phenomena and thoughts about them. How often we witness a chess player completely absorbed in his game, taking no notice of the world around him! At such moments it is only the chess board with its intriguing pattern of pieces and pawns that exists for him.

Attention is not, however, uniformly distributed over all sections of the board and over all pieces. The highest concentration of thought is focused, as a rule, on the main, decisive area of the chess battle. While carrying out an operation on the K-side a chess player is sometimes completely distracted from the position on the other side of the board, and for some time the Q-side is a forgotten "Cinderella". And this is not some mysterious peculiarity of the human mind: it is simply due to the selective nature of attention, which chooses from a large number of objects only those few which are the most important and exciting at the moment in question.

An important practical conclusion follows: one should not aim at a uniformly high concentration of attention over the whole of the board and over all of the pieces at the same time. One has to learn to regulate one's attention, to direct it towards the most important point and then in one's own time to switch to other objects. An overall view of the board and the assessment of a position are built up gradually by switching one's concentration from one section of the battle to another.

It is important to note that while attentiveness is a key psychological condition of an individual, it is also instrumental in the acquisition of knowledge. When we see our opponent's move and start trying to remember the variation we have just worked out, devise a combination or assess the position, we are dealing with facts either new or known, in short, with a flow of chess information, an access of chess knowledge. This information comes in the guise of perception, an image in the memory, or as imagination or thought. One might think that attention was irrelevant here since on its own it does not provide any information; nevertheless it is a necessary pre-requisite for all the above-mentioned cognitive processes. Attention organizes and regulates the course of these processes: it is their valuable ally. After all, it is only by concentrating deeply that it is possible to think over one's opponent's plan with reasonable consistency, recall similar positions from previous games and weigh up the pros and cons when planning one's own move.

Attention is also closely linked with emotions and the will. It is through his emotions that a human being reacts to surrounding reality. Emotional experiences have a strong influence on the ebb and flow of a chess player's

attention, especially during competitions. For example, such negative emotional states as confusion, anger, fear, lack of confidence and complacency can induce a considerable falling off in a chess player's vital activities, including his attention.

Let us examine a few typical cases in which a negative emotional condition weakens a chess player's attention.

(1) Unfamiliar conditions at a competition.

Under the influence of unfamiliar conditions, especially when an inexperienced chess player comes to play in a major competition, a feeling of confusion often appears. Extraneous factors can become such strong irritants that they hinder concentration on the game. As a rule it takes a few rounds for a newcomer to adjust himself to the conditions of a competition. I imagine that any experienced chess player will be able to think of several such instances. I myself can cite my game against Geller in the 25th USSR Championship at Riga 1958. This was my first game in the finals of the national championship. The solemn procedure of the opening ceremony, the huge hall packed with fans and the impressive sight of the stage where the boards were set up made me so excited that I could not concentrate on the game properly. Thoughts about extraneous matters and about my surroundings persistently interfered with my reflections on the game and the calculation of variations.

At a decisive moment I "bravely" sacrificed a pawn without much thought, perhaps more in order to relieve the emotional tension than out of positional considerations. Not surprisingly I lost the game pretty quickly. It is probable that a similar explanation can be given for the disappointing debuts in foreign tournaments of a number of our players.

It is not only the scale of a competition but other, at first sight unimportant, extraneous factors that can provoke an adverse emotional reaction, particularly in an impressionable player. At one of the RSFSR Championships, master L. complained to me that he had a lost game because he was seated in the centre of the stage. The unusual placing disturbed that master so much that, as he put it, his "thoughts were quite feverish".

An unfavourable emotional reaction can sometimes be evoked by the unusual form of the pieces or the clock. Master Sh. told me that during a match in Peking in 1965 his attention was constantly distracted by the unfamiliarity of the clock.

(2) One's position in the tournament and the significance of the result of the game.

Each participant in a tournament usually has a particular aim: one is trying to reach a certain sporting category, another to get into the next round of a

qualifying tournament and so on. Within this context games sometimes occur (usually towards the end of the tournament) which one has to win and when, as they say, there is nothing to lose—for example, when one needs two points out of two to get the master title. The great significance of a particular game, the necessity to draw or win "to order" sometimes evokes a negative emotional condition. Playing to "win or bust" has the effect of over-exciting many chess players. This fact disorganizes the activity of the nervous system, disturbs the concentration and leads to inconsistency and fragmentary thinking.

On the chessboard this "winning fever" often manifests itself in play of the style of *"va banque"*: the attack is conducted with no thought for caution. This sort of procedure is of little value and in most cases it soon turns into "playing for a loss".

In the semi-finals of the 17th USSR Championship in Leningrad in 1949, a win against Lisitsin in the last round would have given me a master norm. I went to play the round in an over-excited mood. All through the day before the game I could not get rid of the thought: "I have to win". This thought prevented me from preparing for the game seriously: I could not pull myself together and study the openings Lisitsin usually played. For a time I became a slave of the thought—"only to win".

Let us see how the game developed.

Lisitsin-Krogius Dutch Defence

1 N-KB3 P-KB4 2 P-Q3 N-KB3 2...P-K3 is better. **3 P-K4 P×P 4 P×P N×P 5 B-Q3 N-B3** Another mistake; 5...P-Q4 is safer. **6 N-N5 P-KN3 7 P-KR4 P-Q3 8 P-R5 P×P 9 B×P N×B 10 Q×RPch K-Q2 11 N-B7 N-N4 and Black resigns.**

I remember how, during the game, I could not concentrate at all. The thought of victory and a point in the tournament table distracted me from working out the lines and interfered with my thinking.

I witnessed similar occurences in the international Tchigorin Memorial Tournament at Sochi in 1966, in the games Bobotsov-Lein and Zakharov-Polugayevsky. For Lein and Zakharov the importance of the games was so great that both of them played in nervous manner without paying much attention, and lost positions which were far from hopeless without putting up much fight.

(3) An "unpleasant" opponent.

It happens that in games between opponents of approximately equal strength one systematically beats the other. Tal, for example, used to lose consistently against Korchnoy, Kotov used to lose against Boleslavsky, Gligoric against Stein, and so on. This, of course, does not reflect the real relative strengths of these players, but it is explainable psychologically.

After losing once or twice the loser feels uncertain or even doomed; this paralyzes his will and his concentration during the game falls sharply. The more impressionable the player the more habitual his losing to his "bogey" opponent becomes. A peculiar psychological barrier arises and prevents his achieving a fighting spirit before the game.

I have analyzed almost eighty games between ten pairs of opponents who were related by psychological dominance, and I have discovered some interesting facts: the number of obvious positional mistakes and tactical miscalculations of the "subject" chess player was significantly greater than their usual average of mistakes. For example, the "subject" blundered away four times as many pawns as in the same number of games against other opponents. It seems that once the negative emotional state has formed, it sharply decreases the resistance and the intensity of attention of these players.

It sometimes happens that this emotional subjection occurs not in *all* games between two players, but only in those in which the colours are a particular way round. For some years, games between Korchnoy and Suetin have been ending with the same result: White has always won, and the score stands at 6:6! Perhaps the white colour of the chess pieces is analogous to the notion of "home ground" to which so much significance is attached in football?!

(4) The opponent's behaviour.

Chess is not just a harmless pushing of pieces on black and white squares. A chess game is a tense fight, a contest of wills, characters and intellects; it is the struggle of two personalities.

Alekhine wrote: "A knowledge of human nature and an understanding of one's opponent's psychology are essential to chess and the chess struggle. Before, people fought only the pieces, whereas we fight (or at least try to fight) the opponent, his individual traits and, not least, his vanity".

It transpires that it is not only a knowledge of chess which is important for the chess player, but also an understanding of the psychological and purely human qualities of his opponent. Such information cannot be acquired in the isolation of one's own room by reading tournament books. As is often said, it is more useful to see once than to hear a hundred times. Live contact and observation of a chess player's behaviour can sometimes tell more about him than dozens of printed games. That is why Petrosian, for example, travelled down to Tbilisi when he was preparing for the 1966 World Championship—to attend the match between Tal and Spassky so that he could personally watch the games, tastes and inclinations of his future opponent.

The outward forms of a chess player's behaviour and the manner of his play give us information about him and at the same time induce a certain emotional relation to these aspects of his character. We can recall when the American

Grandmaster Benko arrived in dark glasses to play against Tal, and said in explanation that Tal "hypnotized" him. Of course, hypnosis is quite irrelevant here, but it does seem that the Rigan's piercing eyes and his manner of looking at his opponent had made a certain impression on Benko.

The psychological duel during the game is also manifested in the outward form of a chess player's behaviour: his facial expression, pose and walk. One must not under-estimate the significance of such factors. Tournament experience can list quite a few instances in which a player's confident appearance and cheerful mood adversely influenced the emotional pitch of his opponent, provoking a hesitancy and doubt in the correctness of his plans which ultimately disturbed the logical flow of his thought and upset his attention. [This subject is discussed more fully in chapter 8.]

Some authorities on chess advise one to try to avoid this failing and refer to Rubinstein. Apparently, when he was asked against whom he was playing he answered: "I am going to play against the white pieces." I believe, however, that ignoring the opponent's personality to such an extent is incorrect.

It is important to take the character of one's opponent into account and to assess it correctly. The ability to withstand the influence of another player and to use the psychological traits of one's opponent to one's own advantage, is an important indication of the strength of a player's character and of the development of his will.

In the above examples we came across manifestations of negative emotional states which depressed a man's psychological activity, including his attention. However, not all emotions are harmful. A successful start to a tournament, the joy of the first win and confidence in one's strength act as an inspriation and increase the sharpness of one's thought and attentiveness. We must thus distinguish between various emotions. Some are friends, which help to mobilize strength and attention, while others are liabilities.

Controlling one's emotions.

I.P. Pavlov once remarked that a human being needs very little: "only a couple of spoonfuls of happiness." This was a profound observation. It means that a human being needs to be charged with a good mood and freed from negative emotions—fear, doubt and so on. The problem is to educate oneself to regulate one's adverse emotional feelings and change them into favourable moods.

The work of O. Chernikova towards the solution of this problem is of great interest. She wrote: "Many sportsmen who have attained a high level of skill as a result of great competitive experience can consciously regulate an unfavourable emotional state . . . they can suppress unnecessary excitement before a

competition, they can tune their emotions, increase their confidence in their own strength and evoke 'sporting anger' and other positive emotions."

Chernikova suggests a number of ways of deliberately regulating one's emotional state which she bases on research into the experience of a number of leading sportsmen. For a wide range of chess players the following methods of regulating emotions are of great significance:

(1) The deliberate change of direction and content of one's imagination and thoughts.

For example, in order to get rid of involuntarily occurring thoughts of possible defeat, one consciously has to evoke thoughts which have a positive emotional tone—about one's good preparation, one's successes in past competitions, the weaknesses of one's opponent and so on.

(2) An arbitrary change in the direction and concentration of one's attention.

In effect this method is closely connected with the previous one, since a re-direction of the imagination and thoughts is only possible through the switching of one's attention. We have to stress, however, the importance of being able to divert oneself from extra burdens (e.g. thoughts about one's deficiencies and so on) before a competition.

Let us look at how these methods can be realized in practice.

As a rule one benefits from placing a reasonable limitation on special chess preparation before a game, and refraining from constantly thinking about the importance of the match: in this way one avoids tiredness and improves one's capacity for attention during the game. We have collected the opinions of about a hundred Grandmasters, Masters and Candidate Masters on the volume of preparation advisable on the day of the round. The overwhelming majority (82) recommend preparation for between thirty and forty minutes. According to them, longer preparation induces tiredness and over-excitement before the round, and depresses the attention.

Diversion from chess before the game is another matter and this depends on a person's temperament. Some like to go for a walk or take other kinds of quiet rest. More active people are attracted by sporting games and spectacular sights. For example, the tournament timetable of Master Lutikov includes going to the cinema on the day of the round. The arduous mental work of chess induces other players to seek distraction in the reading of thrillers.

Thus, methods differ, but the aim is constant: "to forget chess", as Chekhover used to say.

Exhausting meetings and analysis during team events lower a chess player's attention considerably and cause tiredness. The honoured master of sport

Ivanitsky pointed out the harm of "meeting fever" when he talked about the Olympic Games in Tokyo, where the Soviet team had twenty-two separate meetings and discussions: the twenty-third meeting did not take place because the team championship had already been lost.

In conducting a team meeting it is particularly necessary for a trainer to have tact and organizing ability. It must be confessed that for a long time the preparation of our RSFSR chess team was not in a happy state. At the meetings held before a round, ten to twelve chess players had to wait patiently until everybody had been thoroughly prepared. Furthermore, there were many general instructions given, so that one came away from a training session with a head that was crammed full and particularly disposed to blunders. In recent years the position has changed considerably: the style of preparation has become more businesslike, and to examine particular openings the team breaks up into groups. Russia's* growing success can probably be partially attributed to the change in the nature of these training meetings.

Among the thoughts which induce a negative emotional state, the most common is the exaggeration of one's opponent's strength and the corresponding diminishing of one's own chances. Consciously focusing attention on the opponent's weaknesses can be beneficial in such situations.

For instance, once, while preparing to play against Master N., I was not feeling at all confident. I kept on thinking of N's reputation: "a marvellous tactician, he attacks excellently and is a connoisseur of complicated positions." This lack of confidence subconsciously led me to conclude that there was hardly a more terrible opponent one could have. But then I made an effort to calm myself down, and reasoned as follows: "So far N. has not become the World Champion, and moreover he loses quite often." I decided to look only at N's losses from recent competitions. This proved to be a good idea. My timidity disappeared, I played calmly and won an important game. Several times during my training activities I have tried this method of studying only the losses of an opponent one fears, and the results have been favourable.

Such a method, of course, is not very good for making an objective assessment of a chess player, but sometimes it is useful to deviate from the truth a little and deprecate one's opponent's strength. Master S., for example, recalled how he felt encouraged when, on the eve of his first game against a Grandmaster, a friend of his started talking about the mistakes and unsuccessful play of that great chess player.

Of course, in fixing the attention on one's opponent's weaknesses and shortcomings one must keep a sense of proportion; otherwise one can easily fall

*Russia here means RSFSR, i.e. the Russian Republic—one of the eighteen Republics forming the USSR.

into another common negative state: over-confidence.

A cause of the slackening of attention during a game is often fear for one's position, worry about the result or an exaggeration of one's opponent's threats. In such situations it is useful to cheer oneself up with a word of encouragement. We can do this by addressing ourselves silently: "I have to", "I must", "calmer", "I can", "don't panic" and so on. In answering a questionaire many first category players admitted the usefulness of such "self-orders".

During a game, attention can slacken not only out of fear and uncertainty but also because of over-confidence, especially in better positions. The expression "the hardest thing of all is to win a won game" has a deep significance. Having achieved an advantage in a game we often relax our vigilance, we lull ourselves with pleasant thoughts of victory and then . . . we make a bad mistake. Here again a change of mood is necessary towards a proper disposition. It is important to direct the attention towards the thought that the game is won only when the point is written down in the tournament table. Control by means of oral orders such as "check it once again", "do not hurry" and so on, increase the attention and the responsibility of the chess player.

It is very important to boost and re-inforce positive emotions when trying to overcome an unfavourable emotional condition. During some of our junior team championships I noticed many instances of a mastery of coaching technique on the part of Rokhlin, who was the leader of the RSFSR team. At a suitable moment he recalled a very good combination T. had played, then he turned to S. and said: "I am pretty confident of N's play—he played so marvellously in the U.S.S.R. Championship."—in such a way that N. could hear it. I cannot describe all the examples of this trainer's tact, but it created an atmosphere of elation and confidence in the team. All this influenced most favourably the play, attention and sense of responsibility of the members of the team during their matches.

From the experience of the RSFSR junior team we can also draw conclusions on the significance of a trainer's objective analysis of failures. Thanks to analysis and to the clarifying of the causes of mistakes, most of the young chess players overcame their distress. The common opinion that one is afraid and loses confidence when faced with the unknown is not groundless. The analysis of games by Rokhlin, Nezhmedtinov and other trainers quickly led to a precise diagnosis, and the young players had the chance to convince themselves that there was nothing supernatural in their failure.

"After the game Nezhmedtinov very convincingly demonstrated my mistakes in the Sämisch variation of the King's Indian defence. I somehow calmed down. The next time that the variation was played against me I played with confidence and interest: I paid particular attention to the queen's side, which I had neglected on the previous occasion. The game was easy and enjoyable: I

won"—recalled one of the members of the team.

Conclusions.

We have examined in detail a number of typical instances of the influence of emotions on the intensity and dynamics of attention. We have found that it is only possible to overcome the slackening of attention by means of conscious, purposeful acitivity. It follows that the direction and concentration of attention depends very strongly on two factors which determine its effectiveness: the action of the will and emotions.

The psychologist I. Strakhov wrote: "The combination of the will to work and a consistent, emotionally felt interest, is the most favourable psychological premise for constant attention." The significance of will power as a regulator of the level of attention is especially apparent when comparing the productivity of thinking over the board with that of home analysis. Here the difference in emotional states plays a great role. With an equal time consumption, thinking over the board proves to be more effective, inasmuch as there the concrete goals are more clearly defined and a considerably greater force of emotional experience is observed.

A player's emotions also have a great influence on his level of attention: it is no secret that disappointment, disillusionment and fear hinder concentration and impair the depth of analysis. On the other hand self-confidence and calmness allow the player to maintain his vigilance.

"Keeping calm is no light matter; personally my brain functions well only when I am relaxed. During the tournament I particularly encouraged this quality in myself." Botvinnik wrote in his book on the 11th USSR Championship. Attention reveals itself not only in the choice of a move, but also in relation to other people, in the ability to observe their emotional states.

CHAPTER 4

Some Deficiencies of Attention

Attention is a complicated psychological process which manifests itself in diverse ways. It is interesting to examine the significance of particular properties of attention in chess, to describe some typical deficiencies of attention and to discuss ways of remedying these deficiencies so that the player is better equipped for over the board combat. I have investigated the characteristics of attention through the analysis of games, observations during the course of tournaments and also by means of a series of experiments, and I succeeded in establishing some typical shortcomings in the player's development of attention. In particular, I examined in detail instances of lapses of attention, since their prevention has a prime practical significance. An attempt was also made to connect the typical deficiencies of attention which I noticed, with the individual peculiarities of the player's mental activity.

The transfer of attention.

We turn first to the dynamic features of attention. Is there anything we can say about the mobility of attention when it is clear that a profound degree of concentration is essential to all serious mental work?

Such doubts are pointless. In chess, as in other kinds of creative activity, attention is not focused on an unchanging object, but is linked to a constantly changing situation on the board. Each concentration of thought, each attempt to assess a position or work out a variation, invariably requires us to envisage the possible rearrangement of the pieces and the appearance of new positions in the game.

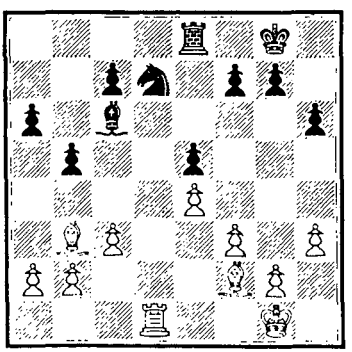
That is why the fact that one's attention is deep and constant does not mean that it is absolutely static. It is a lively and mobile process. This statement is in full accordance with I.P. Pavlov's ideas on the physiological nature of attention. Pavlov wrote: "The sector engaged in optimal activity (i.e. the physiological mechanism of attention—N.K.) is not fixed; quite the reverse, it constantly moves over the whole of the large hemispheres in a manner which depends on

the connections existing between the centres and under the influence of external stimuli. Correspondingly, of course, the area of low excitation also changes."*

The unity of the stability and mobility of the attention of a human being is particularly evident from his ability to switch his attention. By the switching of attention we mean the fully conscious, deliberate transfer of the attention from one object to another. For example, passing from working out one variation to another, transferring a piece in one's mind from one square to another, working out captures, estimating the possibilities of a position and so on. Switching the attention is very important for the chess player as there are constant changes in the position on the board. A sufficiently mobile attention helps the chess player not only to transfer his attention from one position to another when appropriate, but also to devote to each position just as much attention as is necessary for choosing the next move.

We shall try to say something about some aspects of the switching of a player's attention in the course of playing chess and about practical and theoretical ways of improving the flexibility of the attention.

The position in the following diagram is from the game Tal-Krogius, 32nd USSR Championship, Kiev 1964/65.



Black to move

White's chances are preferable. He has the two bishops and prospects of opening up the position still further by means of pawn thrusts on both flanks. Black, however, has no reason to panic just yet. He should have thought of transferring his king to K2. After this the position of his pieces is stabilized, his knight on Q2 is secured, and he can begin to think of preparing counterplay

*Pavlov, "Twenty years of experience".

based on the manoeuvres ...B-N2 and ...P-QB4. In other words, a tense and difficult struggle for both sides lies ahead.

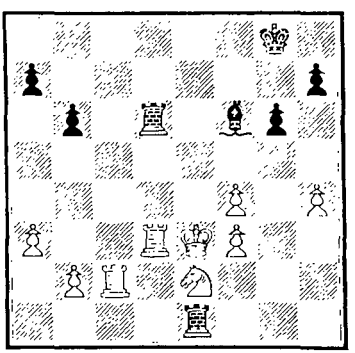
The game continued: **26...N-N3? 27 B×N P×B 28 R-Q6!**

The advance of the rook to the sixth was a complete surprise for me. While thinking about the move 26...N-N3 I naturally took into account the exchange 27 B×N, but after 27...P×B I only saw the maneouvre 28 B-Q5, not even considering 28 R-Q6. How did this blunder happen?

It seems that when thinking through the variation in my mind I left the pawn in its old place, i.e. on QB2, and consequently I thought that an invasion by the rook on Q6 was impossible, since the square was covered. The fact that the accursed pawn leaves its place in consequence of the exchange and cannot guard the key square Q3, I did not take into account at all. I remember how I looked at the board in astonishment and asked myself what inexplicable thing was happening: where was the guard of Q3--the pawn on QB2? I could not believe my eyes: the pawn from QB2 was on another square, in full accordance with the rules of chess.

This example shows that one's mind continues to work on imaginary, non-existent positions in spite of a change in the circumstances on the board. In one's imagination an impression remains which lags behind the actual development of events, but which is so strong that it makes a disastrous contribution to the calculation of variations and the assessment of the position. My transference of attention in the above example was obviously poor. Disregard of a change in the position led to an unrealistic, distorted apprehension of the game.

This shortcoming is a major evil for the chess player. In particular it interferes with the accurate analysis of variations in positions which are full of tactical possibilities. Such failures of transference are quite common in practice. One such example, the the Tal-Rossetto game, was given in chapter 1 to illustrate the phenomenon of the retained image (see pages 21-22).



In the same Interzonal (Amsterdam 1964) another tragedy happened in the game Darga-Lengyel. Black played a combination involving an exchange sacrifice and Darga immediately resigned, thinking that he could not avoid losing a whole rook. The players were greatly surprised when they were shown after the game that Darga could have held on to his material advantage by means of a simple king move.

The game continued: **40...R-K3ch 41 K-B2** and here Lengyel played **41...R(K3)×Nch** thinking that after 42 R×R B×RPch White's only retreat is to N2. **Darga resigned**, his chain of thought being similar.

How is it that neither of the opponents noticed the move 43 K-K3.? The reason for this double blind spot was that both players still saw the malign influence of the departed rook on K6. They thought that K3 was still covered by the rook. This is the sort of misadventure that happens with poor attention switching!

In this case the failure in the transfer of the attention was of a somewhat different nature from the ones quoted above. In the Tal-Krogius and Tal-Rossetto games, a feature of an earlier position was imagined, but at least the piece in question still existed on the board. In Darga-Lengyel, on the other hand, the miscalculation involved a non-existent rook, which had been sacrificed a move earlier! In spite of this difference both kinds of mistake (due to retained images) can be explained by a certain inertia of attention. In order to investigate properties of the transfer of attention I have conducted a number of experiments with a group of first category players.

The examinees were given a position with abundant combinative possibilities, but containing a forced variation. The task was as follows: to think the position over for fifteen to twenty minutes without moving the pieces on the board and to write down the variations analyzed.

We had in all 200 answers on twenty different tactical positions. It is interesting to note that out of a total of 137 mistakes in the calculation of variations connected with the dynamics of attention, in 115 cases the miscalculations were similar to those in the Tal-Krogius and Tal-Rossetto games (i.e. the new, changed position of a particular piece was not taken into account). Only 22 cases were mistakes similar to that in the game Darga-Lengyel (i.e. a piece removed from the board continued a sort of second life in the mind). These preliminary data suggest that the change of position of a piece on the board is often not clearly registered by the chess player's attention and thinking; as a result it is relatively hard to develop the ability to foresee the numerous changes which can occur in a complex position.

When a piece comes to the end of its life this last moment of its existence evokes a particular concentration and there is a consequent difficulty in switching the attention to other objects.

Of course these considerations are far from being the last word. Important factors in explaining a chess player's mistakes in the transfer of attention are his traits of character and temperament, the conditions of the game in question, tiredness, time trouble, his position in the tournament and many other things. In particular, I have noticed that in most complicated positions requiring a wide range of dynamic attention, a comparatively large proportion of errors are made by those who consider chess to be a rigid scientific discipline. Those who have greater faith in the text-book (saying that if the book gives this variation it must be correct and has to be followed) make a greater number of mistakes in connection with the switching of attention.

For practical chess players and trainers it is very important to know how to fight this inadequacy in the switching of the attention and inculcate a suitably dynamic attention. While I was analyzing some of my own games the question occurred to me of how to remedy these failings. A naïve approach would be to analyze every particular case and try to store it in one's memory: do not forget the insidious pawn on QB7; or remember the bishop on KN2—it is preparing to check on R3. Such measures, however, will hardly help: on another occasion the reason for the mirage may be another pawn or piece and anyway, it is impossible to guard against every eventuality. Nor is it necessary.

It is better to find a method of more general application, such as that suggested some time ago by Kotov. It consists of the following: take a complicated, sharp position and devote half an hour to its analysis without moving the pieces on the board. Then write down what you have thought and worked out, and compare the notes with existing commentaries on the position. I have used this method, working with a number of games by Alekhine, Tal and Larsen. It is difficult to guarantee the results but the work seems to have been useful. In any case, the number of omnipresent pieces appearing, like Figaro, here one minute and there the next, was reduced in my games.

Kotov's method contains a very important condition: the calculation is limited in time and the pieces are not allowed to be moved during the course of the analysis. This achieves an optimal simulation of the tournament situation and the calculation is harder and more disciplined. By repeating these exercises several times one can achieve surprising results. It is necessary to note every mistake, even the most insignificant ones in one's analysis.

This method has been used in my work as a trainer. The technique of calculation and the tactical vision of a number of my trainees have improved considerably as a result of such exercises.

Another idea with the same purpose is the reading of chess literature from the page, i.e. a sort of blindfold analysis. I am not going to advocate here blindfold displays on an astronomical number of boards. It has been proved that this has little to do with serious chess. However, the mental analysis of a position or of

an opening without a board will do no harm—quite the reverse. In the course of such an analysis one continually compares one new position with the next; and the placing of the pieces is constantly checked and corrected. For this purpose a chess player cannot do without a sufficiently intense and mobile attention.

I would like to say a few words about the role of chess composition and, in particular, about the composition of problems in the development of a mobile attention. One often hears criticism of problem composition from practical chess players on the grounds of its irrelevance to the practical game, to the usual positions of the endgame and middle game. This criticism is usually quite restrained in reference to studies, but as a rule it is absolutely ruthless when it comes to problems.

It seems to me that such reproaches are unconvincing. Many studies and problems are far removed, it is true, from the typical positions of the middle game and classical endings; nevertheless, they can still be of some benefit to the practical chess player. One possible gain is the development of the dynamics of the attention. Whereas in the analysis of a position from a tournament game the course of our thoughts is influenced significantly by a general assessment and by known strategic principles, in solving "pointless" (from the point of view of the practical player) compositions we generally cannot work with ready-made recipes, but must search for completely new and sometimes paradoxical solutions. Such a situation for a practical player is unusual and for this reason he does not feel the dynamics of the inter-relation between the pieces; he has to establish them for himself. A quick and precise transfer of the attention is essential here. In saying this I do not want to belittle the significance of the analysis of tournament games, but I do not think that the study of compositions makes a useful contribution to the development of a practical player's mastery, and in particular to the development of the dynamics of his attention.

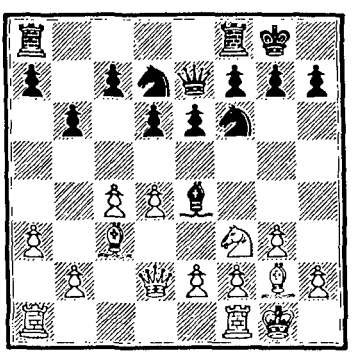
Improvement in the mobility of attention can also be assisted by five-minute games, as long as they are played within reason. Since the position in these games changes fast, the necessity to orientate quickly and, consequently to transfer the attention, is quite obvious. Five-minute games are particularly useful for chess players who have not competed for a long time and have, as it were, lost the rhythm of the chess battle. There is much argument about the advantages and disadvantages of the five-minute game. There is no doubt that an excessive addiction to lightning chess leads to an off-hand attitude to serious games and hinders the concentration and absorption needed for tournament conditions. One can scarcely disagree with that, but I reiterate: within reason five-minute games become a sort of rehearsal for a chess player, during which he sharpens his armaments—thinking, perception, memory and attention. The expression "within reason" will appear obscure to many people. Indeed, how can we fix a reasonable limit? It does not seem possible to give an all-embracing

formula. To find the right measure in this question is a matter for each individual. I wish only to adduce examples from the experience of preparing members of RSFSR teams. Before the match against Hungary and the USSR Spartakiad in 1963, the members of the team each played ten to fifteen five-minute games a day at training and study sessions. This continued for about a week, up to five or seven days before the contest. The team members were in good form during the competitions and it is possible that the five-minute games helped them to a better mood for chess.

During preparation for important competitions, especially after a long break, I always include from thirty to forty five-minute games in my programme of training. I do not want to generalize, but I personally find it helpful. After a like number of five-minute games I feel confident, I "see the board" better and I get in to the rhythm of the tournament battle more quickly. I believe I am not alone in this attitude towards five-minute games.

Instability of attention.

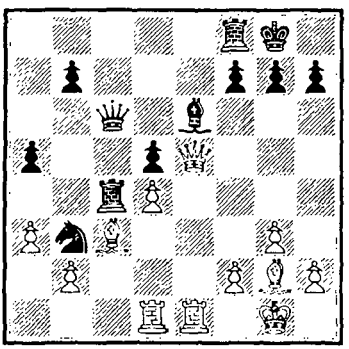
Let us consider the following position from the game Kasparian-Mazel, 7th USSR Championship, Moscow 1931.



Black's best plan may involve the advance of the pawns: ...P-KB4, ...P-K4 or ...P-QB4. At first Mazel's attention was attracted by the natural plan with ...P-K4 and for that reason he played **12...KR-K1.** After **13 P-QN3 B-N2 14 B-N2** Black suddenly changed his mind and, giving up the original plan, played **14...N-K5 15 Q-B2 P-KB4.** Now, after the unexpected transfer of attention to the execution of the new plan with ...P-KB4, it became clear that 12...R-K1 was illogical. There followed **16 N-K1 N(Q2)-B3 17 P-B3 N-N4 18 N-Q3 P-B4!?** Still another surprise, Black again changes plans without completing the earlier one.

Black has changed his plan three times in the last six moves without any reasonable justification, switching his attention from one section of the board to another without sufficient motivation. As a result White achieved an advantage after **19 N-B2** and later on played the break P-K4.

Ilyin-Zhenevsky describes a similar episode from his own experience: "It sometimes happens that there is a choice between two different plans of play. In such cases there is nothing worse than trying to carry out both plans at once, the ideas become mixed up and neither plan is carried out successfully.



"This position is from the game Ilyin-Zhenevsky—Grigoryev, Moscow 1919. Here I had two plans. One—to exploit the poor position of the black rook and play 1 B-B1 R-R5 and now 2 Q-K2 with the threat of Q-N5 or 2 B-Q3 threatening B-B2 or Q-K2. In this case Black's Q-side pawns are in an unenviable position. The other plan was to exploit the weakness of the pawn at Black's Q4 by means of 1 P-B4 P-KN3 2 P-N4 and then P-B5. For me both of these plans mingled into one and I played **1 P-R3?** This, move is no good at all since the bishop can never go to KN5 because of B×QP. **1...P-QN4 2 P-B4** Having lost an important tempo I chose the other plan, but it is too late. **2...P-N5 3 P×P P×P 4 B-B1** And here comes the first plan, or rather a feeble imitation. **4...P×B 5 B×R Q×B 6 P×P B×P** and after a few moves I had to resign."

To these words we add—inadequate attention upon each of the two plans and an unnecessarily rapid transfer from one back to the other, all led to dispersal and fragmentation in the course of the thinking process. Thus, instability of attention manifests itself in the hasty transference of attention from one aspect of the position to another. The length of deliberation that is necessary to achieve a productive decision is lacking, and this results in the violation of logical sequence in play; plans and ideas are mixed and none are brought to their logical conclusion.

Instability of attention is also characterized by the refusal to search for hidden, original possibilities in the position. The player often relies upon the initial, at times superficial, appraisal or calculation and everything appears to him to be clear and simple. Thus, instability of attention often combines with such character traits as excessive self-confidence. It is also connected with definite features of thinking. The player places more trust in an intuitive general evaluation or an instant revelation of variations, to the detriment of a thorough, logical analysis. Such a manner of play, it is true, usually avoids time trouble, but it also substantially reduces the player's creative capacities.

How can one rid oneself of this defect? Quite possibly, its ultimate cause is concealed in the individual qualities of the player's character. Hard work is required in order to develop determination and decisiveness in choosing a move. In this context Bronstein's words spring to mind: "Almost always the determined execution of a plan, even one that is not entirely correct, will more often lead to success than an inadequately motivated sharp switch at the half-way stage."

One can also attempt to outline special chess recommendations for developing a long attention span. In our view, useful exercises include reading chess literature and solving studies without the use of a board, as well as playing blindfold training games. (These recommendations can also help cure defects in the switching of attention—pages 67-73.). Blindfold play increases the need to concentrate attention not only on the positions of the pieces on the board, but also on each possible plan. The mental image is weaker than the visual perception, hence control over the selection of a move will be increased and a special care and accuracy in thinking is required.

On the basis of my own experience I can advise you to discipline yourself during the game by mentally posing the question—"Have I appraised the position/plan/idea too hastily? Did I stop examining this variation too soon?" Kotov's recommendation that a player should analyze a complex position without moving the pieces and with a limited time span (twenty to thirty minutes), is also of value (see page 71).

The distribution of attention.

The expression "breadth of attention" encompasses the two properties of volume and distribution. The volume of attention is measured by the number of objects which are taken in simultaneously. For example, one can register a certain number of letters at a single glance.

Distribution is a more complex property than volume. It is through the distribution of the attention that a human being is able to cope simultaneously with two or more activities (for example, listening to something and writing it

down). The distribution of attention also manifests itself in the ability to perceive different facets of a single object.

The proper distribution of attention in chess presents a difficulty of considerable significance. This is because of the exceptional variety of the possible variations as well as the need for a constant watch on one's opponent's thinking processes. The distribution of attention is closely connected with the transfer of attention, since the dynamics of the chess situation are exceptionally high. In their book 'The Psychology of Playing Chess' Diakov, Petrovsky and Rudik wrote: "At every move the general construction changes. The sections of the paths along which the pieces move make up the content of the thoughts and the elements of the world in which the chess player lives. This description is a schematization of the action of the game which animates our view of chess positions by regarding them as collections of points, each of which is the initial point of a certain trajectory of motion. The chess player's brain is thus presented with a completely special world of dynamic relations . . ."

Alekhine, Botvinnik and other chess authorities have pointed out that a player is incapable of comprehending all the complex inter-relationships of the pieces on the board simultaneously. Mentally the player isolates a sector of the board, a group of pieces, a particular variation or plan, as being the main object of deliberation. Botvinnik wrote: "The player pays no attention to some pieces. From a total number of 25-30 pieces between three and six figure in his calculations." Thus the need for a special form of narrowing one's attention, the mental division of the board into principal and subsidiary, is both psychologically comprehensible and explicable.

The distribution of a chess player's attention depends heavily on a high level of flexibility, for in many cases the direction of attention towards two objects simultaneously is, it seems, nothing other than a swift transfer of concentration from one object to another and an equally swift return to the first object and so on.

With a sufficiently high transferability of attention which is under conscious control, this feature of attention no longer operates as a defect, in that there is nothing incongruous between the effort of immersing oneself in thought about some variation in the correct way and the realization of the necessity of a timely transference of attention to another object. However, quite often the player is carried away by a certain idea and is literally unable to break away from it. Insufficient self-control gives rise to a persistently narrow direction of attention, which limits the scope of one's thought and leads to a subjective evaluation of the position and hence to errors.

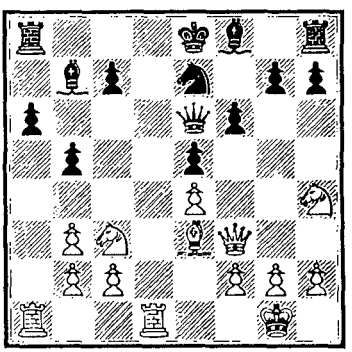
We shall look at some concrete examples of the characteristics of the distribution of a chess player's attention in the course of a game.

Perhaps the most clear-cut proof of the importance of the distribution of the

attention is the necessity for an appraisal of the whole breadth of the board. In this context it should be noted that conducting the battle on both flanks simultaneously is considered to be one of the most complicated tasks in chess. Alekhine's skill in conducting the battle over the whole board is known to everybody but there are quite a few players, even among very experienced masters, who do not handle such operations satisfactorily.

Contemporary chess is characterized by great dynamism and by a wide range of action on the board, and this is inseparable from the conduct of the battle on several fronts. Unexpected sacrifices and unforeseen counter-attacks lie in wait for anyone whose attention is not well distributed over all the pieces participating in the battle.

Let us look at a position which arose in the game Spassky-Taimanov in the 22nd USSR Championship, Moscow 1954.



On a first glance at the Q-side it appears that "everything on the peak is calm". On the other side of the board Taimanov was doubtless somewhat disquieted by the active position of the knight on KR4, which stands ready to jump in at KB5 if necessary. In an attempt to get rid of the white knight Taimanov decided on the advance **14...P-N4**. Making this move he naturally took the possibility of the queen check on R5 into account: he intended to reply ...Q-B2. Nor did he consider 15 N-B5 dangerous either, because of 15...NxN 16 QxN QxQ.

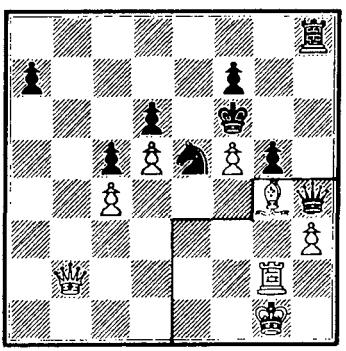
If we could halve the board at this point and just leave the K-side then we could not condemn Black's choice. And Taimanov, having fixed his attention on this flank of the battle, did not stop to think whether the changes on the K-side might not upset the equilibrium of the Q-side. He thought roughly as follows:

"All is quiet on the Q-side—I shall start to work on the K-side," and for this he had to pay heavily a few moves later.

The game continued as follows: **15 N×NP!** The enemy appears where he is not expected! **15...RP×N 16 Q-R5ch Q-B2** Or 16...N-N3 17 R×Rch B×R 18 N×N Q-B2 19 Q-R3. **17 R×Rch B×R 18 R-Q8ch K×R 19 Q×Q P×N 20 Q×BP** and Spassky has reached a won position, since Black's disorganized pieces cannot get a satisfactory defence going.

Black suffered in this game because his attention was only directed towards a certain part of the battle.

Here is a similar example from the game Romanovsky-Kasparian, Leningrad 1938.

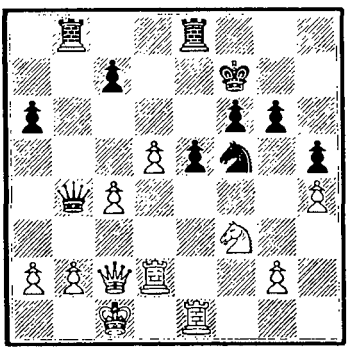


White is in a bad way, a pawn down and his opponent has a strong attack. Black has several ways in which he can win the game, however Kasparian, apparently trying to end the game as soon as possible, decided to force mate. His attention was attracted to the idea of constructing a mating net with the queen and knight. This idea gripped him so strongly that he forgot about the other pieces, particularly the aspects of the positions of his king and White's queen. A narrow strip of the board, bounded by White's KR4, KN4 KB3 and K1, became the centre of his concentration. Kasparian played **52...Q-K8ch** and he announced mate in three with **53 K-R2 R×Pch 54 B×R N-KB6??** This last move was actually played and Romanovsky with great embarrassment began to explain that the knight was pinned: "At first he failed to understand me and it was only after I had gesticulated along the QR1/KR8 diagonal that he saw his mistake and himself returned the knight to K4," wrote Romanovsky.

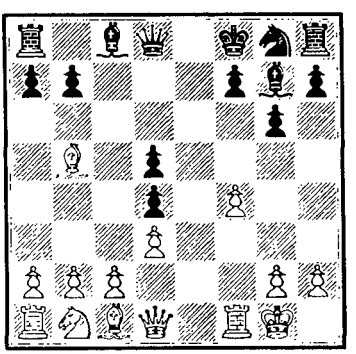
We can see that Kasparian's attention had been so firmly attached to a narrow portion of the board that all the other pieces and squares had ceased to

exist for him. This even led to a strange example of a violation of the rules of chess. Reduced attention is particularly dangerous during a lively game covering the whole board. It is quite correctly stated that the greatest difficulty in chess is presented by simultaneous play on both flanks on the board.

The following diagram shows a position from the game Zaitsev-Shabanov, Krasnoyarsk 1959.



White played **24 P-N4 P×P 25 P-R5**. How should Black continue? According to Friedstein's version (he was present at the post-mortem), Zaitsev had examined these variations: 25...P×N 26 P×Pch K×P 27 R-N1ch K-B2 28 Q×N with a formidable attack; or 25...P-K5 26 P×Pch K×P 27 R×P R×R 28 Q×R P×N 29 Q-N4ch with a very active position. But Shabanov played **25...Q×NPch**. An unexpected and strong reply on the other flank. White, immersed in thoughts of attacking the king, completely ignored the existence of the other side of the board: **26 Q×Q R×Q 27 N-N5ch P×N 28 P×Pch K×P 29 K×R P-N6 30 P-B5 P-K5 31 P-Q6 P-K6 32 P-Q7? R-QN1ch 33 K-B2 P×R 34 R-K8 P-N7 35 Resigns.**



A similar case is described by Ilyin-Zhenevsky.

This position comes from the game Alekhine-Blackburne, St. Petersburg 1914. "Alekhine played **1 N-Q2** after which there followed **1...Q-R4 2 P-QR4 P-QR3** and the white bishop is lost. 'How do you explain the fact that you made such a gross blunder?' I later asked Alekhine. 'Well yes . . .' Alekhine replied, '. . . I quite simply forgot about the bishop. I completely forgot about its existence.' Such forgetfulness occurs quite frequently."

In this example too, White restricted his plan to the preparation of active operations in the centre. The idea of moving the knight there engrossed Alekhine so much that the entire Q-side was ignored.

A similar mistake is the failure to anticipate "long" moves. The overlooking of a queen move, say, from QR8 to QR2 can be explained by the fixing of the player's attention on the central squares, where the main battle-field has hitherto been. Such a limiting of the attention to the main area of the battle is common to many players. After his victory in the World Championship match tournament of 1948, Botvinnik gave a talk at the Leningrad Palace of Pioneers in which he said that during his preparation he had observed that one of his opponents, Euwe, not infrequently overlooked "long" moves. This observation was quite correct and was of practical value. In one of the Botvinnik-Euwe games from that tournament Black lost because he did not see the "long" manoeuvre of the white queen along the route Q3-KN3-KN7 in time.

An excessive limitation of one's thoughts to some narrow sector of the board can produce some other blunders besides those of the "long move" type. Sometimes even a very limited section of the board--only a few squares--is divided into a principal and secondary region of activity.

In the game Petrosian-Bronstein from the Candidate's tournament in Amsterdam 1956, White built up an overwhelming position. His knights occupied the centre, his rooks were doubled on the half-open QN-file and his queen had penetrated into his opponent's camp at Q6. At this point Bronstein, whose position was hopeless, played . . .N(Q5)-KB4. Petrosian advanced a knight, leaving his queen *en prise*. With this surprising blunder the game came to an end.

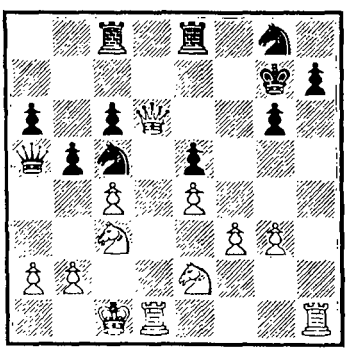
How can such an accident be explained? It is probable that after his successful conquest of the centre, White's attention was mainly directed towards squares lying even deeper inside his opponent's defences. In particular the establishment of the queen on Q6 led him to think of his knight's penetration to that square, which would effectively have meant the end of the battle. The drive to bring this about was so strong that all the powers of his attention were directed towards that unfortunate square. Everything else, even the safety of the queen, was forgotten.

Such exceptional instances of the disruption of the distribution of attention can for the most part be explained by tiredness and over-excitement.

One does not blunder one's queen away all that often, but even at other times the tendency to over-concentrate on a small number of pieces and squares in accordance with a kind of ranking by importance is a facet of our nature which needs constant watching.

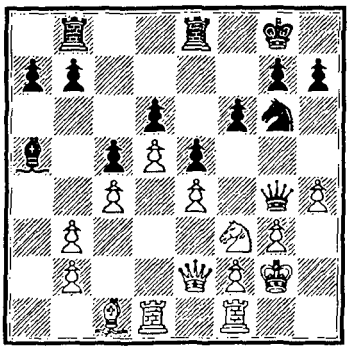
Along with the examples quoted above, where a particular plan has become the object of deep concentration, we often encounter instances where the player dwells excessively on a single move. This is noted in particular in connection with a direct attack or in defence. In such cases a state of self-deception arises in which the defence of a piece, or an obvious retreat seems to be forced and other possibilities are ignored. The actual boundaries to the area of attention are very small, often they are limited to a few squares.

Let us consider the following position from the game Hodos-Sergievsky, Voronezh 1959.



Instead of continuing 19...P×P with the better game, Black played **19...P-N5?** It is clear that Sergievsky reckoned only on 20 N-QN1 which, after 20...R(B1)-Q1 would give him a favourable position. His thoughts had been fixed precisely on this variation in view of the (at first sight) compulsory nature of this line. The squares QR4 and Q5, as well as the other squares of the board, seemingly fell outside the limits of attention because they did not appear to solve the problem of how to save the knight on B3. Therefore Hodos' brilliant reply **20 N-R4!** was totally unexpected by Sergievsky. White sacrifices the knight but gets a strong attack: **20...N×N 21 Q-Q7ch N-K2 22 Q-K6 P-KR4 23 P-N4 N-Q4 24 Q-Q7ch N-K2 25 P×P Q-B4 26 Q-K6** and White won quickly.

A complicated position arose in the game Sokolsky—Ilyin-Zhenevsky, Leningrad 1937.



Sokolsky recalled: "Here I played **25 P-R5?** Engrossed in the variation 25...Q×RP 26 R-R1 Q-N5 27 R×P! (and now not 27...K×R because of 28 N-N5ch); or 25...N-B5ch 26 B×N P×B 27 R-KR1 P×P 28 R-R4. With incredible blindness neither I nor Zhenevsky noticed the simple 25...N-R5ch, after which White would have to resign."

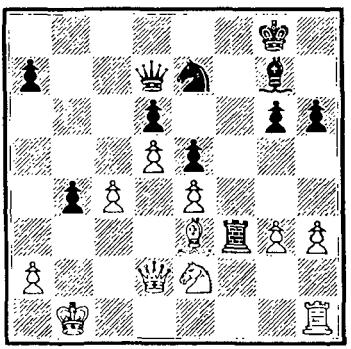
Once again we see a case of limited attention in which only two of the possibilities (the capture of the attacking pawn and the natural retreat of the knight) are considered in the mental analysis. The third possibility is treated as if it does not exist, yet this would have been Black's strongest reply, deciding the game at once. Thus, at the beginning of the static condition of limited attention, so-called intermediate moves and other unusual and unanticipated replies in the subsidiary areas of the board are often overlooked.

Besides cases of the disruption of the spatial distribution of attention, we also find examples of temporal distortion—of a "conservative" attitude towards the values and roles of particular pieces.

Suppose at a certain stage of the game Black's knight on QR4 is out of play, restricted by White's pawn chain: QR2, QN3, QB4 and Q5. In the course of the game White's attention is directed towards the knight on R4 but each time he concludes that the pawns are adequately guarding the imprisoned knight. The repetition of this conclusion gradually erodes the distribution of attention on the function of the knight, and it escapes from the surveillance of the concentration. But the situation on the board changes and the captive knight, like the Phoenix risen from the ashes, enters the game or is advantageously sacrificed for a few pawns. How often such "resurrections" come as a great surprise to the chess player: he has completely forgotten about the piece—and all of a sudden . . .!

SOME DEFICIENCIES OF ATTENTION

The following position is from the game Bastrikov-Krogius, RSFSR Team Championship, Leningrad 1952.



It is Black to move. As Bastrikov told me after the game he was quite content with his position: the pawn on KR6 is attacked and his plan (conceived quite a few moves ago) of advancing in the centre has borne fruit: Black's minor pieces have long been deprived of activity. White now expects 27...Q-R5 or 27...K-R2. However, in his preliminary calculations it has slipped White's attention that with the opening up of the Q-side his opponent's knight has new prospects.

The game continued as follows: **27...N-B4!** A beautiful attack. The idea behind it is to bring the black-squared bishop into play. **28 P×N Q×Pch 29 K-R1 Q-K5 30 B×QRP R-Q6 31 Q-K1 Q×BP 32 N-B1 P-K5dis ch 33 K-N1 P-N6 34 Q-K2 P×Pch 35 Q×P Q-N5ch 36 Resigns**

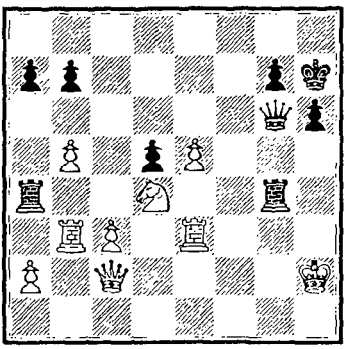
White's inadequate distribution of attention can perhaps be explained by his generally favourable estimate of the position (the opposing knight on K7 is restricted by the pawns, the bishop is safely locked on N2) which blunted his concrete calculations.

These examples, which show the difficulty of anticipating the constantly arising possibilities of pieces which have been static for some time, demonstrate the dynamic nature of the distribution of attention in chess. According to my observations it is possible to detect in players who frequently experience a limited range of attention, a relative backwardness in their understanding of the dynamics of play over the entire board, which is revealed in their tendency to make a painstaking and productive analysis of only one particular idea or variation. Probably such players are affected by an effort to be excessively conscientious; they are striving for the best way in which to penetrate an appealing idea as deeply as is possible.

What measures can we suggest for developing one's feel for this distribution?

I believe that training in critical thinking is important for this development. And during the game it can be useful to take a rest from "everyday calculation" and try and see the position, as it were, as an outsider. This sort of diversion of the thought processes can assume various characters.

The diagram below shows a position from the game Sanzhin-Sergeiev, Ulan-Ude 1947.



Black to move

The game finished as follows: **43...R×P! 44 Q×R Q-R4ch 45 R-KR3 Q×Pch 46 K-R1 Q-K8ch 47 K-R2 Q-N8 mate**

Sergeiev's account of his reasoning during the game is interesting: "After White's forty-third move I thought for about five minutes and I was just about to resign but something held me back at the last moment. What was it? Perhaps I just liked the look of my strong attacking peices. I was somewhat disappointed by the fact that my queen was pinned. I gradually came to the conclusion that I was losing only because of that pin. I wanted to get rid of it, at least in my thoughts. I started working out a variation as if White's queen on QB2 did not exist. I could see mate in four moves. After that I easily found the rook sacrifice."

In this particular case thinking about the position in general (the strong attacking position of the pieces and so on) helped in finding the right combination. In the end these general considerations led the distribution of attention towards the possibility of sacrificing on R7.

In positions where a plan has to be chosen or when one's mind is set on general strategic principles it is useful to combine the diversion of one's thoughts with the analysis of tactical threats.

I do not wish to give the impression that concrete calculation and making general assessments of the position are two independent things. It is not so, of course. I am just trying to point out the relative predominance of one kind of thinking over another at a given moment—either concrete or abstract.

However, let us return to our thesis. In the game Krogius-Sergievsky from the RSFSR Championship of 1959, White was carrying out his planned minority attack on the Q-side. I remember that I wanted to make one more consolidating move with the rook, but first decided to glance over the whole board to see whether any surprises were lurking. In a few moments my attention was attracted by the possibility of a cunning combination which was not directly connected with my Q-side strategy. The "illogical" combination which my attention had missed at first was actually played in the game.

It is also useful to switch off from one's own intentions and put oneself in the opponent's place—to think a little for him. Such a transfer of our thoughts across the front helps to keep our own plans under a better scrutiny and prevent mistakes and miscalculations due to inattentiveness.

Thus, the conscious diversion of one's thoughts at certain moments of the stuggle, or in other words, the exercise of self-control, is an effective way of developing the breadth of one's attention. It is possible that what we think of as the unity of the strategic and tactical elements of the art of chess consists precisely of a recognition of the need for shifts of this type—from the general to the special and from the concrete to the general.

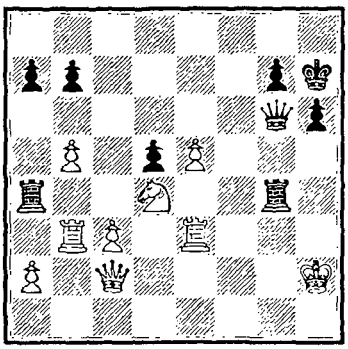
The problem of the relation between the distribution and the flexibility of the attention has not yet been adequately classified in experimental psychology. On the basis of numerous observations of highly rated players we have come to the provisional conclusion that a low facility in switching one's attention is highly correlated with poor distribution of attention. The advice given for improving the ability to shift the attention may therefore help the distribution of attention as well. Thus training games of speed chess might be productive in combatting the defects of limited attention. In blitz play positions change too quickly to allow the conditions for an excessively deep analysis of individual plans. On the contrary, it generally requires a constant adjustment and transfer of attention to the solution of newly arisen problems that cover the entire board. Similarly, on the basis of my experience as a trainer, I consider it permissible for me to recommend simultaneous play as having a beneficial influence in broadening the range of a player's attention, especially if clocks and a shortened time control are used (a session of 8-10 boards with a time limit of 45-60 minutes for 40 moves is recommended).

I should also mention that in the search for a cure for these defects I achieved successful results from my first experiments in showing complicated positions to first category players and Candidate Masters. After a twenty second

What measures can we suggest for developing one's feel for this distribution?

I believe that training in critical thinking is important for this development. And during the game it can be useful to take a rest from "everyday calculation" and try and see the position, as it were, as an outsider. This sort of diversion of the thought processes can assume various characters.

The diagram below shows a position from the game Sanzhin-Sergeiev, Ulan-Ude 1947.



Black to move

The game finished as follows: **43...R×P! 44 Q×R Q-R4ch 45 R-KR3 Q×Pch 46 K-R1 Q-K8ch 47 K-R2 Q-N8 mate**

Sergeiev's account of his reasoning during the game is interesting: "After White's forty-third move I thought for about five minutes and I was just about to resign but something held me back at the last moment. What was it? Perhaps I just liked the look of my strong attacking peices. I was somewhat disappointed by the fact that my queen was pinned. I gradually came to the conclusion that I was losing only because of that pin. I wanted to get rid of it, at least in my thoughts. I started working out a variation as if White's queen on QB2 did not exist. I could see mate in four moves. After that I easily found the rook sacrifice."

In this particular case thinking about the position in general (the strong attacking position of the pieces and so on) helped in finding the right combination. In the end these general considerations led the distribution of attention towards the possibility of sacrificing on R7.

In positions where a plan has to be chosen or when one's mind is set on general strategic principles it is useful to combine the diversion of one's thoughts with the analysis of tactical threats.

I do not wish to give the impression that concrete calculation and making general assessments of the position are two independent things. It is not so, of course. I am just trying to point out the relative predominance of one kind of thinking over another at a given moment—either concrete or abstract.

However, let us return to our thesis. In the game Krogius-Sergievsky from the RSFSR Championship of 1959, White was carrying out his planned minority attack on the Q-side. I remember that I wanted to make one more consolidating move with the rook, but first decided to glance over the whole board to see whether any surprises were lurking. In a few moments my attention was attracted by the possibility of a cunning combination which was not directly connected with my Q-side strategy. The "illogical" combination which my attention had missed at first was actually played in the game.

It is also useful to switch off from one's own intentions and put oneself in the opponent's place—to think a little for him. Such a transfer of our thoughts across the front helps to keep our own plans under a better scrutiny and prevent mistakes and miscalculations due to inattentiveness.

Thus, the conscious diversion of one's thoughts at certain moments of the stuggle, or in other words, the exercise of self-control, is an effective way of developing the breadth of one's attention. It is possible that what we think of as the unity of the strategic and tactical elements of the art of chess consists precisely of a recognition of the need for shifts of this type—from the general to the special and from the concrete to the general.

The problem of the relation between the distribution and the flexibility of the attention has not yet been adequately classified in experimental psychology. On the basis of numerous observations of highly rated players we have come to the provisional conclusion that a low facility in switching one's attention is highly correlated with poor distribution of attention. The advice given for improving the ability to shift the attention may therefore help the distribution of attention as well. Thus training games of speed chess might be productive in combatting the defects of limited attention. In blitz play positions change too quickly to allow the conditions for an excessively deep analysis of individual plans. On the contrary, it generally requires a constant adjustment and transfer of attention to the solution of newly arisen problems that cover the entire board. Similarly, on the basis of my experience as a trainer, I consider it permissible for me to recommend simultaneous play as having a beneficial influence in broadening the range of a player's attention, especially if clocks and a shortened time control are used (a session of 8-10 boards with a time limit of 45-60 minutes for 40 moves is recommended).

I should also mention that in the search for a cure for these defects I achieved successful results from my first experiments in showing complicated positions to first category players and Candidate Masters. After a twenty second

examination of the board, the pieces were removed and the players were asked to reconstruct the positions and give general descriptions of the battle on each flank.

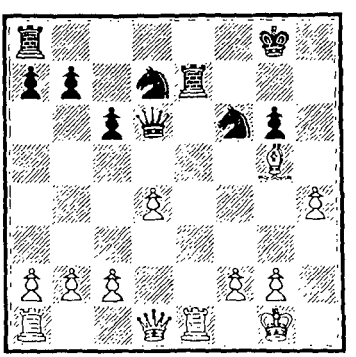
Dispersion of attention.

By this we mean an excessive breadth of attention, the striving to confine the infinite on the chess board. The distribution of the capacities of attention over a very large number of elements in a complicated position leads to a weakened attention on the main decisive area of the board, which in turn makes a correct assessment of the position very difficult. Often we encounter thought dispersal aimed at analyzing numerous concrete variations, while considerations of general strategic planning are pushed into the background.

Such cases of being carried away by concrete factors to the detriment of general considerations leads to a situation in which the salient factors in the position fall from the field of attention. This is likely to lead to time trouble and the general assessment of the position itself is not completely objective, in that it suffers from excessive detail.

Notice should be taken of the substantial difference between the characteristics of instability of attention—its unnecessary transference which we examined above—and the dispersion of attention. With instability of attention the mind wavers between one idea—the principal one at any given moment, and another, but in the case of dispersed attention we observe the effort to embrace all the variety of detail in the current position in a single act of perception.

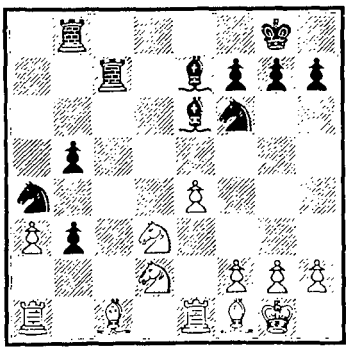
Tal gives a good description of the condition of dispersed attention in his comments on the 9th game of his first match with Botvinnik (Moscow 1960).



"As soon as the black KR was able to neutralize White's pressure in the K-file, it could be considered that Black's basic difficulties were in the past. This is what Botvinnik felt, and I have to agree with him. Here I would like to digress slightly. In the course of a chess game, opponents develop their ideas completely differently. Many chess players (especially in the younger generation) in the course of a five hour game will occupy themselves mainly with basic calculations, and their work will approximately consist of 'if I go there he goes there' as the position warrants. The more experienced chess players who study the secrets of the art more profoundly, frequently do not bother themselves with such fatiguing matters and, conforming to basic unshakable (in many but not in all cases) principles, plan their further play. To illustrate, I would like to quote from the conversation which occurred after the end of the ninth game between Botvinnik and myself. When I, in rapid-fire succession, began to show Botvinnik the different variations in which Black gets a good game he said: 'At first, I thought that this position was better for White, but later I found the correct plan: I had to exchange rooks and keep the queens on the board.' At first, such an evaluation of the position seemed to me to be rather abstract, but when I began to go over the same numerous variations, then I came to the conclusion that Botvinnik was absolutely correct: in an ending without queens, White's well shaped pawn chain with the support of the active bishop guarantees him a definite edge. With the queens on the board, Black can count on a strong attack in view of the weakness on KN4. White's next move is absolutely correct—he has linked it with the idea of fighting for the K-file, but at the decisive moment, I lost confidence in myself."

It is not surprising that in the following part of the game Tal made a decisive error. Having been engrossed in a welter of concrete variations he allowed the main strategic idea of his difficult position—the unfavourability of the exchange of rooks for White—to slip from his mind. Tal could play 21 P-KB4 and 22 R-K5 establishing an outpost on the critical K-file, but he missed this opportunity possibly because he regarded it an unnecessary luxury to contemplate operations on the K-file alone.

The opening of the game Lein-Stein 34th USSR Championship Tiflis 1966/67, is also instructive: **1 P-Q4 N-KB3 2 N-KB3 P-Q3 3 QN-Q2 B-N5 4 P-B3 P-B3 5 Q-B2 QN-Q2 6 P-K3 P-K4 7 P×P P×P 8 B-B4 B-K2 9 O-O O-O 10 R-K1 Q-B2 11 P-QR3 P-QN4 12 B-K2 P-QR4 13 P-QN3 N-B4 14 P-QN4 N-R5 15 P-K4 QR-N1 16 P-B4 RP×P 17 B-KB1 KR-B1 18 BP×P BP×P 19 Q×Q R×Q 20 N×P B-K3 21 N-Q3 P-N6**



White's position is a sad sight! If we examine Lein's preceding moves it is quite noticeable that each individual move is not so bad in itself and seems to have been directed towards the solution of some concrete problem, but there was no general plan behind White's play.

Lack of planning is accompanied by the dispersion and fragmentation of the processes of thought and attention. In this case the chief disrupting agent of White's attention was obviously Lein's emotional state of depression. The result of this game was very important to him—if he won he almost certainly would have qualified for the Interzonal Tournament. Normally very attentive, he was unrecognizable in this game. The scattered course of his thought, dispersed amongst "a little of everything" was quickly punished.

These cases of dispersed attention remind us somewhat of a computer working on the principle of examining all possible variations. The computer considers a lot of information very quickly, but is unable to distinguish the primary variations from the subsidiary ones. There can be no doubt that dispersed attention dislocates the player's plan-forming creative process. A consistent game containing a single strategic plan from beginning to end cannot be created with dispersed attention. Overcoming this defect is linked in the first place with the development of the player's ability to evaluate. Therefore, when analyzing positions during training exercises, one should first of all try to get an unequivocal answer to the question "what should I do?", rather than "how should I do it?".

A useful exercise for solving positions is to try to find a plan for White or Black. Unfortunately, perhaps with the exception of Lisitsin's book,* such exercises are missing in chess handbooks. In my work with first category players I organized contests in the rapid assessment of a position; in three to ten

* Strategya i Taktika Shakhmatnogo Iskusstva (1952)

minutes the competitors had to point out the principal strategic and tactical ideas in the position. The first of these experiments had positive results. Even those most inclined to cogitate over every sort of trivia showed significantly more organized thinking. It was necessary however, to combat another extreme shown by some competitors—the tendency to solve every position solely by logical analysis.

In the struggle against wandering attention a study of the efforts of Rubinstein, Capablanca, Botvinnik, Smyslov and Petrosian will be of great benefit. Their games reveal the prominence of efficiently directed concentration in order to realize what they consider to be their main aim on the board, perhaps a distant strategic plan or even a brief operation which improves the position of a single piece.

The power of concentration.

By the power of concentration we understand the intensity of attention to an activity and the degree of absorbtion in it. People's powers of concentration differ greatly. The following degrees of intensity can be distinguished in chess: Total absorption in the game; a more restrained concentration, alternating with distractions such as looking at neighbouring games, spectators and so on; a superficial concentration, as for instance, when one looks through games quickly without a proper understanding; and lastly, weak concentration with an unstable direction of attention. Such an unstable, wandering concentration often borders on absent-mindedness.

The power of a player's attention depends on several factors; his temperament, the complexity of the position, the significance of the outcome of the game, tiredness and so on. Apparently, at one tournament it happened that a waterjug fell to the floor with a resounding crash. Almost all those present looked up, with the exception of the English master Burn, who carried on gazing at the board as if nothing had happened. Later he said that he had not heard anything. And this is not exceptional. Although we have just distinguished four degrees of the power of attention we have to note that the character of the chess struggle demands the development to a high level of the faculty of attention, so that in normal tournament conditions (in the absence of excessive tiredness) an experienced chess player has a very high power of attention. The ability to maintain a prolonged and constant intensity of attention are also very important accomplishments in chess. A game lasts a long time and the slackening of attention for even a short period can lead to irreparable consequences: how often an advantage gained by many hours' ardous toil is thrown away by a single careless move!

An important, necessary condition for maintaining the strength of concentration is a sufficient variety in one's thoughts and impressions. Anything

monotonous quickly weakens the attention. K.S. Stanislavsky said that in order to keep up one's attentiveness it is not enough just to stare at an object; one has to observe it from different points and so vary one's perception of it.

Before making a move the chess player usually asks himself: "what will I gain by moving this piece?" The answer might be: winning a pawn, a strong square for the knight, defending against a fork and so on; he compares the answers and after analyzing them he chooses his next move.

I believe that mentally asking another specific question—"what will this intended move give the opponent and what new possibilities will it open up for him?"—will considerably widen and enrich one's perception of the position. In this way one sees the position from different angles, and this helps to retain attention at a high level.

The advice: "first of all try to see what your opponent is threatening" is very common among trainers and in spite of a superficial similarity to the above mentioned method it is nevertheless quite different. If we base our thoughts only on our opponent's threats then we involuntarily introduce a passive direction to our thoughts and we estimate the position somewhat one-sidedly, i.e. from the point of view of the opponent's chances.

Diversity is also a necessary condition for increasing the attention during chess studies. While studying openings some people swot up variations, which usually come to an end between the twelfth and fifteenth moves. I have seen quite experienced first category players preparing for a game using this monotonous method. In all probability the power of concentration falls quickly during such preparation, since the knowledge obtained in such a way has proved to be short lived.

Romanovsky wrote that it was useful to combine the study of the openings with the analysis of combinations typical of the variation, and with the analysis of games beginning with the opening in question. Romanovsky's advice stresses the thesis that deep knowledge can be acquired through varied approaches. Along with the diversity in one's thoughts and impressions, involvement in an activity assists the development of the power of attention. Blumenfeld said that he remembered the games he played himself considerably longer than games by somebody else which he had annotated, in spite of the fact that he had to spend two or three days analyzing them, and consequently spent much longer over them. However, there is nothing mysterious in this. The process of playing a game is more active than that of annotating another player's games, and demands a more intensive attention. Involvement in an activity ensures better retention.

From my own experience I can say that I have very often refuted over the board, in a few minutes, a variation I had prepared at home. The active character of play during the game and the strength of attention which goes with

it are evidently more productive than one's concentration during home analysis. One can say that, as a rule, in a given unit of time one can see more over the board than in the quiet of one's study so that the opinion that theoretical exercises have to be combined with practical play is quite justified. In tournament games knowledge is thoroughly tested and reinforced. I think that it is incorrect to plan the programme for chess study groups (especially children's study groups) in the same way as one plans a school lesson. One has to play over and over again. I am not denying, of course, the significance of theory, but I am convinced that one cannot become a strong player just by studying books.

However, let us return to the study of theory and home analysis. It seems that the effectiveness of analysis is not always the same. It is much higher in cases where the work is of a more active and independent character. In such conditions the attention rises sharply and the material is understood and remembered better. At numerous training gatherings information which was checked independently was remembered best.

From the very first steps in chess a trainer has to try to teach his pupil independence and the ambition to do something with his own bare hands. In my youth I used to be trained by master Aratovsky. I remember what a great help it was to me, then a second category player, to annotate one of my own games. It was a difficult task and it required a lot of attention to reach an opinion on the opening, to compare it with the reference book recommendations and to try to find the crucial moments of the game. In my work as a trainer I take care to encourage plenty of independence from players and I consider it to be an important element in forming the character of a chess player as well as his attentiveness. In the light of this statement I think it is important that, in addition to his usual homework, a first category player should deliver a short lecture on such themes as: the attack on the long diagonal, knight against bishop, isolated pawns and so on. For a Candidate Master one has to make the theme a bit more difficult and stress the importance of independence. An example of a suitable topic is: "Methods of struggling against an isolated pawn on Q4 in Petrosian's games."

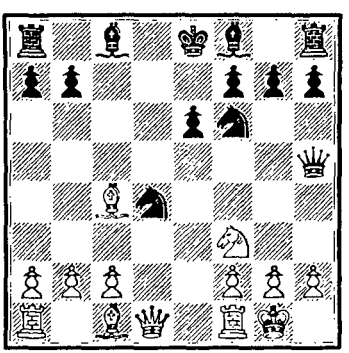
One pre-condition of a high level of concentration is a clear understanding of what one is doing. Consequently, a correct and objective assessment of the events on the board increases the attention; when one has a definite aim and knows what to do one can think with more concentration and purposefulness. In the above example from the Tal-Krogius game the reason for Black's mistake was an insufficient undertstanding of the sense of the position. At the moment when I moved the fatal knight to N3, as I recall, I did not clearly understand the shortcomings of my position nor, above all, the insecure position of the knight on Q2. This caused fluctuations in my attention, which was distracted for a few moments, and induced the miscalculation.

It often happens that when one is in a difficult position one begins to play more inventively, the tension of one's thought and attention increases, one continuously and feverishly searches for a solution, a counter-chance or an unexpected trap. Why does that happen? Could one not have played with a similar intensity of attention earlier in the game, when everything was all right? It seems that the earlier, not yet fully formed position was assessed superficially, the game was not planned properly and the attention was dispersed on details.

In connection with the heightening of attentiveness attendant upon an understanding of the events on the board we must mention the ability of Petrosian, Kholmov and some other players to take timely prophylactic measures against their opponents' threats even before they have become apparent. This sharpened "sense of danger" is nothing other than high attentiveness based on a profound assessment of the position and versatility of thought in taking the opponent's view point.

One often hears of a player getting into a position "not of his type" and losing quickly. There is evidently a connection between a person's style of play and his ability to increase the activity of his attention. A chess player's style is not just a question of moves on the board; it is rather a matter of his character and the idiosyncracies of his cerebral activity. Since work is usually more productive when performed in familiar conditions, perhaps I can suggest that playing chess in more familiar and better understood positions is also characterized by greater attentiveness. This hypothesis does not conflict with my opinion on the connection between one's attention and one's general estimate and understanding of a position.

The position in the following diagram is from the game Krogius-Barcza, Chigorin Memorial Tournament, Sochi 1964.



SOME DEFICIENCIES OF ATTENTION

I had the following problem: with which piece shall I capture the black knight? Both ways are quite attractive. After 10 Q×N B-B4 11 B-QN5ch K-K2 12 Q-B3 White has dangerous threats. For example, 12...B×Pch 13 R×B Q×B is no good because of 14 Q-R3ch. On the other hand, after 10 N×N Q×Q 11 R×Q, Black has a difficult ending. But one has to choose one or the other!

I decided to play **10 N×N** because it was more in my style and I liked it a little better. But what does the phrase "more in my style" mean?

It means that the chosen continuation evoked in me a feeling of confidence and satisfaction with the position. The desirability of such a feeling, which encourages, as we know, a heightening of the attention, is obvious. I conducted the rest of the game in good spirits and ultimately managed to win.

White would probably have won even after 10 Q×N as this continuation appears to be no weaker than 10 N×N. But why did I decide not to play 10 Q×N.? In comparing the two possibilities during the game, I remember that I was afraid that if I kept the queens on I might let my advantage slip, and perhaps blunder. So, the decision was emotionally coloured. In the case of 10 Q×N an adverse emotional colouring appeared which influenced my attention and my thinking process, and could thus have ultimately influenced the strength of my play.

Does one, then, by choosing a line which suits one's own taste and style, really increase the attention and the strength of one's play generally? This is indeed the conclusion I would draw. An analysis of a large number of my losses confirms this belief! In games in which I did not follow my chess convictions, in which I bowed to other authorities, I made more mistakes, I was less attentive and I played a weaker game.

A lot of chess fans are attracted by Tal's brilliant style of play. I am myself a great admirer of his outstanding imaginative gift, but one cannot expect every chessmaster to play in Tal's style. Every player's character forms differently, as do his way of thinking and the particular capacities of his attention, memory and other psychological processes. And so even if everybody wanted to follow a single example no good would come of it for chess.

A chess player's capacity for work and his attention during the game are not the same thing. Tiredness blunts the attention at the end of a round, whereas at the beginning one often lacks concentration. Like other kinds of mental effort, a game of chess can be divided into the following stages: (1) Entering into the spirit of the game; (2) Reaching an optimal working capacity; (3) A falling off of attention due to tiredness.

I.P. Pavlov's research showed that changing over from one activity to another is difficult for a human being. One's thoughts and feelings accustom themselves to the rhythm of even familiar work only gradually, not all at once. Establishing a sufficient degree of attention at the beginning of a game does not happen

suddenly either. A certain period of time elapses before one's attention is distracted from thoughts connected with previous activities and one actively enters into the game. One sometimes reads in tournament reports that Botvinnik, in accordance with his habit, appeared in the tournament hall fifteen minutes before the round was due to start. It is worth thinking about this striking consistency on the part of the Ex-World Champion. It is not fortuitous; on the contrary, he prolongs his tournament day for a few minutes quite deliberately. By coming earlier he is able to delete irrelevant impressions and tune himself for the coming struggle.

It seems that Botvinnik understood the beneficial effect of this practice long ago. Unfortunately not many follow his example. In fact it is far more common for a master to arrive out of breath, just as his clock is being started, or even later. It takes him a few minutes to recover and then, with difficulty, get into the game while he recklessly uses up a lot of time and energy.

Establishing a sufficient degree of concentration at the beginning of a game also requires time and a certain period of acclimatization. For this reason the habit of a number of chess players of making the opening moves very quickly seems to me to be quite wrong. Sometimes they hurry to such an extent that they can hardly even press the clock. A lot of people will argue "but if one knows the variation very well, then why not save some time?" Of course, one can save a few minutes, but they are not worth much. Take, for example, Boleslavsky's play. He must have played the Chigorin variation of the Ruy Lopez hundreds of times, but I have never seen him making his first moves of that opening at blitz speed and it is not through inabibility: the Grandmaster from Minsk plays five-minute chess much more confidently than some of the opening "sprinters". There is a different explanation for this deliberateness: quick opening moves, made out of inertia, evoke a very weak degree of concentration. This break-neck rush and feeble concentration often influence the rest of the game. Attention is late arriving and blunders are not far away. Many blunders are made at exactly the moment when the opening moves have been hurriedly finished and the first "independent" move is made.

We have already said that chess demands a prolonged maintenance of intense attention. However, it would be wrong to claim the necessity of an equally deep absorption in the game throughout the whole five hours. Let us compare two key moments in a game: suppose you are thinking about your move, weighing up the numerous pros and cons before deciding what to play. In this you try to keep your attention and thinking processes at their very highest level. The will and emotions are strained to the limit. The content of the thinking process, however, is quite different while you are waiting for your opponent to move, especially if you are not in time trouble and the position contains a large number of continuations of roughly equal value. In such cases the mind is relatively passive

and the strength of its attention decreases, because the impulse to mobilize the will—that is, the opponent's move—is absent. We try to guess our opponent's move and such a condition, like any uncertainty in life, depresses and disturbs. And tiredness increases.

Perhaps one should sometimes use one's opponent's move time for rest and for relaxing the intensity of the attention somewhat. Whether or not one should sit at the board the whole time is a question of long standing. It is well known that Botvinnik, in many tournaments he played in, remained glued to his chair for the whole five hours, thinking about his opponent's possible variations. This led trainers and mentors to say to their charges: "Look at Botvinnik's example; do not walk around while your opponent is thinking, but think yourself." Late in his career Botvinnik, to the amazement of chess trainers, started walking up and down the tournament hall. However, the watchword "sit and play" has not lost its followers.

What comment can be made here? Every chess player has his idiosyncracies of temperament, attention and other psycho-physiological qualities, so it would be wrong to give one general prescription. Nevertheless I would like to point out some considerations.

Sometimes, of course, it is essential to think while it is one's opponent's move, and not divert one's attention. This is natural during time trouble, during forced continuations, if an idea suddenly strikes one about an unexpected continuation, and so on, but more often, distraction from the game and some relaxation are quite justified, and walking is an active form of relaxation. Chess players have differing ways of diverting their thoughts from the game. For example, Lisitsin goes to the corner of the stage and looks into the audience, Smyslov energetically paces along between the tables and Tal and Taimanov manage to "run" several miles during a round. Despite these differences in behaviour, chess player's ways of resting have plenty in common. Firstly, relaxation is relative: there is only a slight decrease in the strength of the attention and one's thoughts continually return to one's own position. At such moments a player can start a conversation with a fellow-competitor, but he does not particularly like listening to him, especially if it involves making a considerable effort.

Here we encounter the difficulty of the distribution of attention between cogitating about one question and listening to a discourse on another. Generally it is only the main ideas of the speaker's thoughts which are registered, and even these only in a fragmentary way.

During these periods of diversion strong outside irritants can play an adverse role. A question from a journalist, enquiries from a persistent fan or just loud talking can provoke such complete distraction that the process of re-establishing

one's concentration after the opponent's move is very difficult and demands great will power.

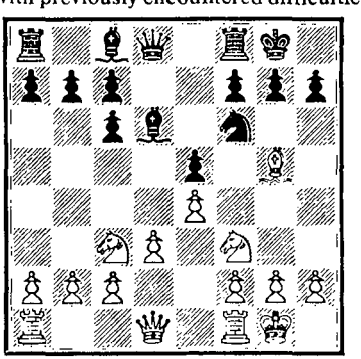
Since one's attention has to be raised or lowered with every move in alternation, it is important to think about the moment at which one switches back on. I believe that at the point of transition from relative relaxation to great effort (that is, when the opponent makes his move) the practice of writing down the full chess notation (instead of the abbreviated form) is quite justified.* The extra two or three seconds one uses for this notation ensure a gradation in the course of the increase of the intensity of attention and also help to get rid of any irrelevant thoughts which have appeared during the wait for the opponent's move.

INDIVIDUAL CHARACTERISTICS AFFECTING ATTENTION

In the investigation into the special characteristics of attention in chess activity, an allowance should be made for the selective nature of attention, which is dependent upon a player's knowledge, his experience, his aesthetic preferences and so on. Indivdual features of a player's character, his tastes and interests, influence the direction of attention considerably.

The extent to which attention is dependent upon the player's theoretical knowledge and experience.

Under the influence of knowledge and experience, attention is often drawn to certain elements in a position or transferred to other elements. Perhaps this is because the player has discovered the position on the board to be similar to already known positions which he has encountered before and because experience plays the part of a special sort of traffic light for a player's attention. The green light is associated with agreeable memories, whereas red signifies danger in association with previously encountered difficulties.



* Krogius is recommending the use of, for example, Ng1-f3, rather than simply Nf3—Editor

As an example let us consider the opening in the game game Winter-Capablanca Hastings 1919.

Capablanca's attention was attracted by the idea of forcing the white bishop from the theatre of war by means of . . .P-KR3 and . . .P-KN4. There followed **8...P-KR3 9 B-R4? P-B4 10 N-Q5? P-KN4 11 N×Nch Q×N 12 B-N3 B-N5 13 P-KR3 B×N 14 Q×B Q×Q 15 P×Q P-KB3** "A single glance is enough to be convinced that White is practically a bishop down" wrote Capablanca. Possibly the Cuban's attention was also attracted to the action on the K-side because of associations with ideas seen in earlier games in which he had chased away his opponent's bishop in a similar way. It is quite sufficient to look at the opening moves in his game with Morrison (White), played in New York a year earlier: 1 P-K4 P-K4 2 N-KB3 N-QB3 3 B-N5 P-Q3 4 N-B3 B-Q2 5 P-Q4 P×P 6 N×P P-KN3 7 N-B3 B-N2 8 B-N5 N-B3 9 Q-Q2 P-KR3 10 B-KR4? O-O 11 O-O-O R-K1 12 KR-K1 P-N4! 13 B-N3 N-KR4 14 N-Q5 P-R3, and the bishop on KN3 is not involved in the game.

Knowledge definitely regulates the direction of a player's attention to a certain extent, however, it is necessary to qualify this with the observation that knowledge is all the more effective in regulating attention the better assimilated it is. Needless to say this indicates that great benefit is derived from analyzing one's own games, that is to say a detailed, critical analysis in which both the key factors and the mistakes in the game are revealed. Korchnoy once made an instructive remark about the requirements for the effective analysis of one's own games. He pointed out that the attitude towards this work should be the same as that adopted when each game is destined for publication. Unfortunately, many players fail to take the view that their games are their own vital concern; at best their game scores gather dust on a shelf and are never turned to for critical examination.

The experience of other players should, of course, be understood in depth. In this respect the picture is apparently more favourable, the theoretical articles and the games of famous players are studied. However, here too one need not go far for examples of tournament books being read with the speed of blitz games, with a lack of serious analysis. One would imagine that the exponents of such speed methods would not acquire much knowledge, but will pick up the already familiar (to us) defect of dispersed attention.

Making sense out of one's own analysis will become more productive when it is summarized in a written form, because the written word, including literature concerning chess positions, permits a better comparsion and allows one to distinguish the principal points and to draw practical conclusions. The written formulation of much that happens at the board gives one the chance to rise above the crude "I go there—he goes there—then I go there" etc. This is already a big step forward in the development of a player's positional judgement.

Of course, I am not trying to deny the significance of visual images in assimilating past experience. It is merely my wish to say that a player's visual memory should be developed in unison with his concrete memory. In regard to the role of visual images in effectively holding attention, I can speak from my experiences with a group of ten players of candidate master or first category strength. The subjects were asked to evaluate a position in a well-known variation of the King's Indian Defence and to outline a plan of action. Then, what might seem to be a trivial new detail was introduced into the familiar position on the board; the pieces and pawns kept their places but the colours were reversed.

Although the sense of the position remained unchanged the results of the experiment were unexpected—the majority of the subjects failed to arrive at a clear understanding of the identity of the two positions during the whole period of the experiment (15 minutes) and they proposed rather unusual and rather bad plans. On the whole they convincingly demonstrated once again that in chess creativity the act of instilling meaning into a position is an organic part of the act of visual understanding of the position.

The extent to which attention is dependent upon fashions in chess.

Every player possesses his own individual characteristics. It is possible to single out groups with similar characteristics of creativity and these groups we call styles, and yet many players of various styles fall under the spell of the current creative trends in chess. Thus, in their time, the teachings of Steinitz, the views of Tarrasch, the ideas of Capablanca and a number of other great masters, have exerted an influence upon the opening repertoire and the methods of technique applied by many of their contemporaries of varying styles. Today a similar picture can be observed when the King's Indian and the Sicilian dominate in the openings, but in the middle-game the most popular positions are those with dynamic tension in the centre and a pawn storm against an enemy king fortress which contains a fianchettoed bishop. Therefore, in our observations of the present phase of chess development, various positions remain outside the notice of many players of various types and characters. For instance, those positions with symmetrical pawn formations in the centre, such as arise from the Orthodox and Slav defences in the Queen's Gambit. Somehow such positions are regarded as dull, even as drawish. They are not given a thought and attention is transferred to a more "modern" arrangement of the pieces. Is this not a tribute to fashion!

Taimanov's story about the seminar he held in 1967 for young masters is quite instructive: the Grandmaster noticed that the six young players, although of different creative tendencies, all ignored positions such as those mentioned above, but in the more modern games they sought with interest and found the tactical and strategic ideas that have often been encountered in recent years.

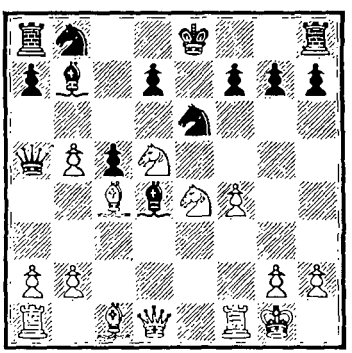
The dependence of attention on aesthetic views.

A pretty sacrifice or an unusual idea generally attract the attention of players of various styles. In this attraction definite difficulties are observed in transferring the attention from some impressive looking variation to a more prosaic one, but one which is possibly more efficient, so great is the aesthetic factor in conditioning the player's attention. At times (most often it is observed in players with great imagination), a serious effort of will is required to deviate from the impressive, but less potent manoeuvre, in favour of the dry prose which leads to the goal more quickly.

Many masters are seemingly convinced that the more efficient a move is the more beautiful it is, yet hidden in the mind of nearly everyone lies the feeling that to sacrifice the queen and win in five moves is preferable to an easily gained victory in four moves.

Very possibly these views are explained by the powerful propaganda over the years in favour of sacrifices and risk on the chess board. Doubtless these views are controversial, but what is to be done—romanticism in chess literature is still successfully contrasted with realism.

The next diagram shows a position from the game Krogius-Kuznetsov, Essentuki 1962.



White has a big advantage. 14 K-R1 followed by P-KB5 leads to a win, but who can resist the opportunity of a queen sacrifice? White's attention had been constantly aimed at the square Q4. The other possibility K-R1 bobbed to the surface of my mind but was rejected. My heart stopped beating and I played **14 Q×B**. Although I might not be considered as a representative of the romantic school, the aesthetic factors nevertheless won the day, although it is quite likely that I did not understand them at all correctly in this game.

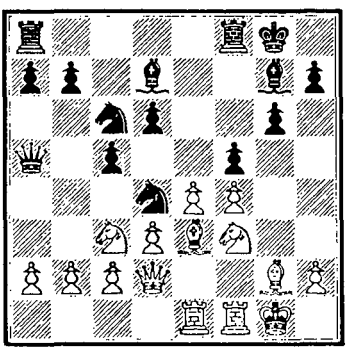
Eventually White won, though not in the shortest way (14 K-R1 would have been swifter). The game went **14...N×Q 15 N-Q6ch K-B1 16 N×B Q-R5 17 P-**

QN3 N×P(N6) 18 P×N A new sacrifice which also influenced the choice of my 14th move. **18...Q×R 19 B-K3 Q-N7 20 B×Pch P-Q3 21 B×QPch K-N1 22 N-K7ch K-B1 23 R-K1! P-KR4 24 N-N6dbl ch K-N1 25 R-K8ch K-R2 26 N×R Q-Q5ch 27 K-B1 P-R3** 27...N-Q2 offered more resistance. **28 N×P P×P 29 N-N5ch K-N3 30 B-KB7ch K-B4 31 R-K5ch K×P 32 P-N3ch Resigns**

The dependence of attention upon the individual features of the opponent's play.

Chess activity presupposes not only the contemplation of a position from one's own side, but also the simultaneous prediction of the path of the opponent's thinking. The questions "What is my opponent thinking?" and "What is his aim?" generally accompany the choice of every move. Thus the player's attention is corrected and disciplined by knowledge of the strong and weak points of his opponent's play, especially by penetrating the special features of his creative style.

Here we quote Larsen's instructive words in reference to the following position from his match with Ivkov (Bled 1965).



Larsen-Ivkov

Here White played **15 N-Q5** which was met by **15...Q×Q**. As we have said already, attention is a process of selection. It is continually isolating some objects for concentration and rejecting others. In this case, when he was contemplating the move 15 N-Q5, Larsen was absorbed by the examination of the position after the exchange of queens, but, the reader might ask, why not the position after the move 15...Q×P.?

About the possibility of 15...Q×P Larsen wrote: "I was firmly convinced that Ivkov does not take such pawns, therefore I did not consider the consequences of the perfectly reasonable move 15...Q×P at all seriously. One must save time for deliberation."

Thus Larsen did not begin to consider the lines after 15...Q×P, because of his knowledge of the individual characteristics of Ivkov's play. Ivkov does not like to accept the sacrifice of a pawn on the edge of the board if it will give his opponent the initiative. If the same situation had arisen in a game against Korchnoy we can be sure that Larsen would have considered the move 15...Q×P immediately, since it is well known that Korchnoy will accept almost any kind of sacrifice, even at times when it is risky and dubious to do so. We can see from this example how the special features of a player's attention and thinking are adapted to the individual style of the opponent.

Botvinnik successfully programmed the direction of his attention in his return match with Tal (Moscow 1961). Above all, his attention was directed towards the calculation of his rival's aggressive tactical possibilities. Quite a lot of cases may be found in chess practice where attention has been successfully directed to the opponent's most likely replies, which are determined by the peculiarities of his style of play. Excellent illustrations of this are Spassky's play in his matches with Geller (Sukhumi 1968) and Tal (Tbilisi 1965).

The dependence of attention on style.

We have examined the special features of a player's attention in a fairly detailed manner. An important practical question is—how are these features interrelated with the different styles of play? Apparently it is impossible to answer this with a single sentence. In a master's creativity we can observe certain weaknesses and certain strengths of attention, similarly there are apparently definite tendencies that link the various styles of play with definite qualitative facets of attention.

How chess improves attentiveness.

We have analyzed some of the properties of the process of attention as manifested in chess. In conclusion I would like to say a few words about the use of chess in the development of a man's attention generally.

A serious study of chess requires a high level of attentiveness. The slightest slackening of attention is heavily penalized, so that it is essential to be able to maintain a sufficient level of intensity of attention for a long time. This capacity is very beneficial in study, in scientific work and in other activities which require considerable mental effort. The training of the attention brought about by playing chess helps to fight the tendency to distraction and discipline one's character and thinking processes.

Psychological studies show that performing independent work requiring initiative and creativity is important for the development of the attention, especially in early childhood and youth. In this respect chess is a rich field for activity. In the course of a game a chess player has to invent and carry out plans and search for ever more original notions in order to withstand his opponent's

plots. Laziness of thought, the lack of inventiveness and passivity are punished in chess quickly and remorselessly.

In chess every piece has to be thought of dynamically, in relation to its value and significance in possible movements on the board. The opinion that a chess player is in a world of constantly changing relations is thus evidently correct. This fact demands from him a development of the dynamic properties of attention and its distribution, and this in turn is very important for overcoming faults of the character.

Chess helps to fight distraction and teaches us to work in unfavourable conditions. Often the presence of other people irritates and prevents concentration. The conditions of chess tournaments, where, as a rule, there are many people (the audience, the participants and the controllers), help to train the ability to concentrate in the most difficult conditions. It is no secret that the reason for the poor productivity of some very able people is an inadequate attention which cannot withstand distraction.

Control of one's attention is attained through struggling with changing moods and adverse emotions. Chess shows us how important it is not to lose control of oneself after a reverse, when in difficulties or in the face of the unexpected. It helps to preserve the ability to work and to be attentive amidst difficulties.

It is said that chess is for those whose will is strong. It is also true to say that chess generates will power. The dynamics of a chess player's attention cannot be isolated from the idiosyncracies of his character, thinking and other psychological qualities. Consequently, the causes of many chess phenomena (and in particular the weaknesses discussed above) must not be sought only in the area between the two rook's files, but rather in the general development of the personality.

The saying that personality comes through in chess is quite true. The character of a player determines his style; the weak and strong sides of his character are inevitably visible in his mistakes and successes. For this reason, however much it may seem to us that blunders and other peccadilloes on the sixty-four squares are specifically chess failings, in fact they are due to disorganization, indecision, uncritical behaviour and many other human deficiencies.

When psychologists speak of an insufficient development of an independent will they mean a tendency to be easily influenced by others. This can make itself felt in chess: A. Ebralidze appears to have lost his game against Ragozin in the 10th USSR Championship (Tbilisi, 1937) purely through succumbing to alien influence. The strong influence of his opponent, being uncritically accepted, paralyzed his will power and made him accept his adversary's evaluation of the position, with a resultant loss in the flexibility of his attention. At a crucial moment of the game Ragozin put a rook *en prise*, counting on winning it back with a bishop which, however, was pinned. Eye-witnesses relate that Ebralidze

was plunged into thought. He probably saw his opponent's intention at once—to check with the bishop and so win back the rook. Since the exchange of rooks was disadvantageous for him and, moreover, he trusted his opponent, he did not even check the variation beginning with taking the rook ("Surely Ragozin himself cannot be mistaken!").

Meanwhile the atmosphere in the hall had become exceedingly tense. One of the fans could not bear it any more and shouted: "Archill, take the rook." "I can see, don't interrupt," replied Ebralidze.

A few more minutes passed. And all of a sudden White did not take the black rook but retreated. It is difficult to describe the reaction in the hall. At first Ebralidze looked round without understanding what it was all about, then he realized everything and clutched his head in despair.

What sort of magic is that, one might ask. How it is that a master with plenty of time to spare missed a one-move win? But it is no magic. It is just chess and a manifestation of the character of a chess player.

The reason that the "hypnosis" worked was probably that Ebralidze, then a young chess player, believed blindly in the authority of his famous opponent and did not dare even to think that he might have blundered. Ebralidze's belief in the correctness of his opponent's move was so strong that he could not rid himself of that impression, detach himself and check the peculiarities of the position once more.

CHAPTER 5

What is time trouble?

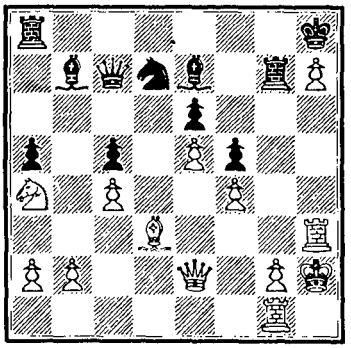
Time trouble means a lack of time for thinking. This phenomenon plays a big role in practical play. When in time trouble a player's thought, will power emotions and other personal qualities do not show themselves in their normal form, but under unusual circumstances, which demand a swift choice. At times such a choice has to be made in a very complicated position.

A chess player's emotions become vividly manifest in time trouble. How many beautiful positions and deep thoughts have been squandered by that scourge of chess players! The fall of the flag often puts an inexorable full stop to positions in which an interesting struggle lay ahead. Many chess players have, in their time, experienced the torment of time trouble, and some have gone down in chess history as martyrs to time trouble.

In the past the German Grandmaster Samisch was particularly given to it. In one nine-round tournament he managed to lose five games on time. It is claimed, moreover, that this was not his record!* There are also contemporary masters who can rival Samisch. There is some truth in the saying that after the fifteenth move Benko's play resembles a cowboy film. Benko has been playing chess for twenty-five years and his memoirs could perhaps be justifiably entitled "Twenty five years in time trouble".

During the minutes of time trouble what happens on the board is indescribable. There is no time for deep-laid plans — only for making the moves: it does not matter what moves, as long as there are enough of them. What time trouble makes of quite ordinary positions, and how it distorts a game is well illustrated in the game Nezhmedtinov-Kotkov played in Sochi in 1965.

*Samisch once played in a tournament in which he lost every game on time!



White has sacrificed a piece for three pawns. In this case, however, it is insufficient compensation because Black has excellent counter-attacking chances and White's KRP is destined for death in the endgame. There were less than two minutes left on Kotkov's clock and he had to make sixteen more moves. He played: **24...R-KB1** 24...R-N5 or 24...N-B1 is better. **25 N-B3 R(B1)-B2 26 Q-R5 N-B1** 26...N×P was worth considering, with a menacing counter-attack. **27 P-KN4 P×P?** 27...Q-B3! was better. **28 R×P R×R 29 Q×R N×P 30 Q×P B-KB1?** 30...Q-B3 31 Q×Q B×Q 32 N-Q5 B-Q1 was essential. **31 Q-K8 K-N1 32 B-B5 N-N4 33 P×N R×B** In this absolutely hopeless position **Black lost on time.**

The audience watching Kotkov's play in time trouble literally groaned. Really, every move a mistake!

Of course, time trouble is not always accompanied by mistakes, but usually the quality of the chess drops sharply. The above example was no exception. I always watch the games of the Minsk master Veresov with interest. At the beginning of a game he is imperturbable and leisurely. With philosophical calmness he looks at the board although the clock moves inexorably on. But suddenly Veresov anxiously glances at the clock. He has good grounds for alarm: there are only a few minutes left and the number of moves to be made is terrible — twenty or even more. And so the chase begins. During the 1954 USSR Team Championship Veresov lost on time against me on the twenty-fifth move! However, Veresov has to be paid his tribute. He is completely transfigured in time trouble: he pulls himself together, is more decisive and as a rule plays well. Nevertheless, time trouble plays its underhand tricks even on his good positions.

Some incorrigible addicts of time trouble cannot bear the acute lack of time. Eremin, the Candidate Master from Kazan, is one such example; when he sees the flag hanging horizontally he sometimes forgets about the board, the pieces

and the game. At such moments he appears to gaze, as if enchanted, at the trembling hand of the clock and with a sigh of relief watch the flag fall.

A knowledge of the special features of time trouble is important for practical play, and it also has considerable psychological significance since it plays a big part in supplementing our description of the specific way a player thinks — of the volitional and emotional components of his character. As we shall see, time trouble has some similarity with crisis situations in ordinary life, when the time available for making a decision is strictly limited. Hence we shall deal with the question of why time trouble arises, and examine also the basic features of the thought processes when under time pressure.

First of all we must formally define this phenomenon — what period of time before the flag falls can be considered to be time trouble? It is difficult to give a simple answer. The concept is a relative one, and subjective to a considerable degree. There are cases where a player has less than a minute for 18 to 20 moves, but on the other hand 8 to 10 minutes with 5 or 6 moves still to make might be called time trouble in a complicated position.

The approach of time trouble is often definable only on the basis of a player's subjective impressions, which assess the amount of time left on his clock in comparison with the nature of the position, his individual experience, the nature of his opponent's play and so on.

For example, Korchnoy usually considers it quite normal for him to have to make 5 or 6 moves in 3 minutes whereas this is serious time trouble for Kholmov or A. Zaitsev. We shall stick to the common opinion among players that one reckons to be in time trouble when there is less than a minute per move for the remaining moves and one does not have more than ten minutes left on the clock. (Let us remember that the normal control in competitive play is $2\frac{1}{2}$ hours for 40 moves; that is 3 mins 45 seconds per move on average.) The clocks are an inevitable feature of competitive play — to play without them would create unequal playing conditions and lead to an irrational use of time.

In the New York tournament of 1857 eight games between Morphy and Paulsen lasted 62 hours, yet only 311 moves were made during this time. The Morphy-Lowenthal game (London 1858), lasted 20 hours and 67 moves were made. Eye witnesses report that Morphy's opponents spent three or four times as long as he did over their moves (and, by the way, it did not do them much good).

The reader may suggest that perhaps the laws of chess are too strict; perhaps the thinking time should be increased. That has been tried, but the addicts managed to think even longer, and again regularly found themselves in time trouble. It is no solution to the problem.

In the 1906 Nuremberg tournament a rule of 15 moves per hour was established, and every extra minute of deliberation was punished, not by a loss,

but by a monetary fine. This attempt to control the players' thinking ended in failure — after a few days many players were bankrupt. Under the threat of an unavoidable break-up the tournament was extended and continued with no time limit at all. The contest dragged on for a long time, but interestingly enough the creative level of the tournament was no higher than earlier in the tournament where the same players had played with clocks. Hence, as Spielmann rightly pointed out, the Nuremburg tournament dispelled the last misgivings about the usefulness of clocks. It showed that without clocks the players thought for a longer time, but that their thoughts were by no means any more productive.

However, another question arises: how objectively has the current standard of time consumption been fixed? Could it not be too severe? In any round of any contest there are always several games proceeding under conditions of extreme time pressure. There are players who frequently get into time trouble, such as Samisch, Benko, Reshevsky, Alatortsev, Veresov, and Savon (among others).

We accept that the historically constituted standard time control clearly corresponds in great measure to the players' objective needs. This is verified by the facts, which show that an increased time limit will not eradicate time trouble. For instance, at the international tournament in Bled 1931, a very generous time control was set at 35 moves in 2½ hours, yet the number of time scrambles was not reduced because of this. Korchnoy once said: "No matter how much time is added for thought, the time trouble specialist will at some moment play against the flag."

This evidence allows us to assume that it is quite likely that the causes of time trouble have a psychological nature. Why is it that such strong and experienced players as Reshevsky, Benko and others cannot discipline themselves to think less and play more quickly throughout the game? When they are hard pressed in time trouble they make moves very quickly indeed. Are they their own enemies?

Here is my view of the reasons for time trouble and the methods of overcoming this curse of chess players. I do not want to discuss here those atypical cases when an extremely difficult position or an unexpected opening innovation by one's opponent leads one into time trouble. Nor will I discuss the situations which Botvinnik has described as follows: "There are moments in a game when one has to think the position over very thoroughly; and consequently use up an extra twenty to thirty minutes and make the rest of the moves before the time control more quickly. This is 'normal' time trouble and I have no intention of giving it up."

Let us consider those players for whom time trouble is not an exception but the rule. Such players often waste valuable time to no purpose. Sometimes an obviously useless continuation, a tempting but unacceptable possibility enchants the player's imagination so much that he does not have the resolution to refrain from the calculation of these variations and make a sober choice.

Here is Botvinnik's advice on how to fight such occurrences: "I schooled myself to use time economically and so solved the problem satisfactorily, sometimes even consciously lowering the quality of my play. There was no other way — how else could one teach oneself to save time? For a long time I have been recommending to those of our masters who systematically suffer from terrible time trouble one method of fighting against that failing. One should play training games with one's attention primarily on the clock and not the quality of play or the result. . . . I think that 90% of sufferers from 'time-trouble fever' were completely cured using this method, though of course there are 'hopeless cases'."

This advice of the ex-World Champion undoubtedly has a certain methodological value, but it does not say much about the causes of time-trouble fever. For a proper treatment one has to have a correct diagnosis.

It is interesting to read another opinion, this time that of Grandmaster Averbakh: "My personal experience shows that time trouble is not just the inability to apportion one's time, but is either a flaw in one's character linked with indecision, or it is due to a lack of practice with its concomitant uncertainty.

"A chess player gets into time trouble not, as a rule, because he cannot regulate his time, but because he is not very sure of himself, does not trust his own calculations and checks over the same variation several times."

"Botvinnik's method is extremely simple: one plays training games watching mainly the clock, but I do not think it is very effective, and it is rather superficial. Botvinnik himself admits that it is only 90% of sufferers that are cured completely. . . . If this is so, then it seems that I belong to the other 10%, and I think that the author of the method is himself also among the 10%."

In my view Averbakh's opinion, which links the onset of time trouble to the individual features of the player's character, gives a more comprehensive understanding of the essence of the phenomenon of time trouble. One has to search for the causes of time trouble in the psychology of man and more precisely in the emotional and volitional spheres of his character.

What is it, then, that causes the chronic over-expenditure of time in thinking over a move? It is a systematic refusal to take decisions, a constant lack of confidence even in the most obvious, it is doubt and it is hesitation. If time-trouble addicts had their way, the move would never be made.

I hope chess lovers will forgive me, but I cannot restrain myself from drawing comparisons with the old fable of Buridan and his mule. When he went away the master left two exactly equal heaps of hay in the stable at exactly the same distance from the stall. The mule hesitated over which heap to choose (and in which direction to set off), but the poor soul could not make up his mind and died of hunger.

Indecisiveness and want of faith in one's own strength accompanied by fear and doubt hang over the player infected by time-trouble fever like the sword of Damocles. I happened to watch the play of two famous "specialists" in this field against players who showed no particular inclination towards time trouble. In both games both players were very short of time: they had fifteen moves to make in ten to fifteen minutes; the variations, which had obviously been calculated, were forced.

Here is a short timing of events:

Game 1: A (the time-trouble addict) makes the first move in fifty seconds; his opponent in fifteen; the second move thirty and six respectively, the third forty and ten, and so on.

Game 2: B (the time-trouble lover): first move — one minute, his opponent twenty seconds; second move thirty-five seconds and thirty seconds; third move forty seconds and five seconds, and so on.

The real time-trouble addicts probably subconsciously resist even the most obvious, one hundred-percent-clear moves. This was exactly the case in the above examples, where the play was forced for both sides.

When I asked master A what he was thinking about he said: "When the game entered the forced stage I was suddenly overwhelmed by doubts as to whether my position would be sufficient for a win and so my thoughts were involuntarily going back to the position about six moves previously. Instead of replying faster I was tormented by the question of whether I could have played more strongly earlier."

As we can see, A's thinking efficiency was far from high. He was lacking the purpose of will which turns one's thoughts in the direction which is necessary at the given moment, without being distracted and worried about things which one can no longer do anything about.

As the reader has no doubt noticed, the problem of time trouble is not so simple and its solution cannot be found solely within the realm of chess. Time trouble is not just a chess occurrence; cases of "time trouble in life" are pretty frequent. Think of the student postponing his revision before an examination or the factory where some of the workers "liven" up in the last few days before contracted work is due to be submitted. The inability and unwillingness to take a decision in time becomes a habit and a pattern of behaviour. This is in harmony with the old aphorism: "Why do today what can be left until tomorrow?" It is easy to visualize the harm which widespread time-trouble disease in various fields brings to our lives.

It is understandable that chess players try to get rid of their terible enemy — the time-trouble disease. Since time trouble is a manifestation of the character one has to search for methods of curing it in that direction. "That's easily said,"

many people will respond. Of course, it is much more difficult to do anything about it.

In an attempt to discover the causes of time trouble I have investigated the following tournaments: Nottingham 1936, Moscow 1936, The Hague/Moscow 1948, Zurich Candidates' Tournament 1953, Candidates' Tournament in Yugoslavia 1959, USSR v Yugoslavia matches 1956-66, 34th USSR Championship 1967 and others, making up over 500 games altogether. Added to this are my own observations made in the course of Soviet and international tournaments from 1956-68 and discussions with the participants. From all these investigations I have learnt that certain objective and subjective causes may be isolated as being favourable to the appearance of time trouble.

To the objective causes we assign the following:

Inadequate theoretical preparation.

An inadequate knowledge of typical middle game and endgame positions and in particular of plans of development and opening variations, leads to an increase in the time consumed for deliberation. For instance, Polugayevsky indicated that he often got into time trouble mainly because of poor opening preparation. After hard work in this area he began to suffer less and less from the clock. In the Chigorin Memorial Tournament, Sochi 1965, I experienced severe time shortage several times for the very same reason, although I am not generally given to an addiction to time-trouble.

A theoretical knowledge of *insufficient quantity* or of poor quality will make a player feel uncertain, which in turn will necessitate the extremely thorough and constant checking and rechecking of the possibilities which arise during the process of searching for a move. In relation to this it might be useful to acquaint ourselves with the opinion of the physiologist P. Simonov, who attributes the onset of negative human emotions to inadequate information. For instance, a man who knows nothing about the local traffic laws will be frightened when he crosses a busy street. Apparently a similar feeling of uncertainty frequently arises in a player who, without an adequate store of knowledge, attempts to cross the thoroughfares of chess, that is to decide upon the choice of move in positions already explored by theory.

We can therefore conclude that a good theoretical background is beneficial. In particular, guessing the opening before the game allows one to save a lot of time, boosts the confidence and increases one's inclination to work at the board.

Along with theoretical education, the development of a general ability to assess positions is valuable for the chess player. This phrase requires elucidation. Let us ponder how a high-ranking chess player (say, a Candidate Master or Master) thinks during a game. His opponent makes a move. The choice on the board lies between, let us suppose, twenty more or less sensible continuations.

The master does not go over all twenty: he discards about ten immediately as manifestly no good and gradually selects one from the remainder. The division of variations into "clean and unclean" is intuitive; it is a generalization from past experience, going on a number of minute, sometimes barely discernable and intangible, factors.

If the intuition were more highly developed one would immediately discard not ten, but, say, seventeen continuations out of twenty. When only three possible continuations are left the conflict involved in taking a decision is less, arithmetically speaking. Grounds for uncertainty and other adverse emotions will therefore diminish.

The development of chess intuition is determined by a chess player's experience and, perhaps more importantly, by his skill in generalizing from that experience. Generalization of the flow of chess information is precisely what we mean by the ability to assess positions. Consequently, the development of abstract and logical thinking is a real help in overcoming time trouble.

I would like to say a good word for such excellent books as "My System" by Nimzowitsch, "The Problems of Contemporary Chess Theory" by Lipnitsky and the works of Botvinnik, Capablanca and Alekhine, which provide valuable help in developing the ability to understand positions.

We must conclude our discussion of opening preparation and intuition in curing time trouble with a sobering "but". The chess world has known many brilliant theoreticians and seen the rich intuition of many great players, but it has also very often seen them in acute time trouble. There are plenty of examples. Who does not know of the encyclopaedic knowledge of Grandmaster Bronstein, his marvellous intuition— and his almost invariable time trouble?

Going back to what I said earlier I must reiterate: time trouble is not merely a matter of chess: it concerns the human being himself, about whom psychology has told us far less than has theory about the copious variations of the Queen's Gambit.

Inadequate practical preparation, the absence of training.

A lengthy lay-off usually lowers the efficiency of a player's mental activity, therefore the conclusions drawn from the experience of trainers, which assert that after a long gap several training games are necessary before a tournament begins, are correct. These games create beneficial conditions for a player's successful adjustment to the conditions of tournament play and help to engender a dynamic pattern of play.

In cases of lack of training Botvinnik's advice quoted above may help in avoiding time trouble. Blitz game training may also have a positive effect. In those cases where there has been no preparatory training the player finds himself given to time trouble to a considerably greater degree than is normal, especially at the beginning of the tournament. It should be noted that when a

player is out of training his capacity for a general intuitive assessment of a position is not reduced. However, those automatic components of thought and the special intellectual habits which substantially reduce the time taken for calculation and for the solution of concrete tactical problems *are* reduced.

Objective complexity of a situation.

Complicated situations which are dynamic and as yet unresolved, need to be considered more thoroughly and in greater detail; a deeper search is necessary to find a plan. Positions which have undergone sudden and substantial change also require similar consideration.

Botvinnik's sentiment quoted on page 107 contains the important belief that there is a direct proportional relationship between the objective complexity of a position and the time taken for seeking the best moves in that position. Thus, the attempts made by some players to expend, let us say, a maximum of thirty minutes on the opening, or to divide the remaining time exactly by the number of moves to arrive at an average time for the consideration of each move, seem to be naive.

We should therefore approach Spielmann's advice critically. He suggests leaving a compulsory five minutes as a reserve for the final move. A mental reduction of the time available by five minutes has a certain significance in developing self-control, but the attempt to carry out Spielmann's advice literally may lead to time being expended on moves other than those that actually need it, in direct contravention of our plan.

It is more often the case that if one side is in a difficult position then the complexity of choice leads to time trouble. The player who has the advantage will examine his plans with particular accuracy and the defender will look for a way out of his difficult position with more care than usual.

Conscious entry into time trouble.

Cases of time trouble are also observed when a player, who is dissatisfied with the course of the game, enters time trouble with the idea of exploiting it as a form of psychological warfare. This attempt to draw the opponent's fire is often successful: the opponent, hoping to gain a quick victory during the other side's time trouble, becomes excited and loses the necessary critical approach. The objective nature of his thinking is replaced by impetuous actions. The result is a loss of detachment in controlling one's emotions which leads to serious errors, and thus *the intentional use of time trouble is often justified.*

The reader should note the increased likelihood of making mistakes during his opponent's time trouble, since his critical attitude towards the opponent's plans is reduced and his capacity for a deep understanding of the position is weakened.

WHAT IS TIME TROUBLE?

It has been said that Reshevsky often invites time trouble quite deliberately. In this respect the Korchnoy-Suetin game, which decided first place in the 27th USSR Championship (Leningrad 1960), is instructive. Suetin obtained an advantage in the opening and steadily increased the pressure in the middle game. Korchnoy only succeeded in diverting Suetin from his measured tempo of play by provoking his own time trouble. Suetin incorrectly believed that he had the chance of an early win, he began to hurry, committed some serious errors and lost the game. Thus, thanks in part to a well-timed lapse into time trouble, Korchnoy gained an important victory.

Deliberately getting into time trouble should be employed only after a detailed assessment of a number of considerations. The objective one — the complexity of the position, and the subjective ones — a consideration of the opponent's character, the likelihood of errors on his part and so on. We have classified the conditions for the appearance of deliberate time trouble in the group of objective causes of time trouble, since we regard the determining feature as being an entirely objective criterion — namely an unsatisfactory position.

Time trouble also arises from subjective causes, as the manifestation of definite individual qualities of thinking, and the volition and emotional frame of mind of the player. The psychologist B. Teplov has emphasized the particular importance of the unity of intellect and will power for an effective activity in practical thinking. This situation may be completely attributed to the competitive side of chess creativity. The violation of the unity of the content of thought and its strict aims within the framework of a tense chess battle is one of the main causes of time trouble. In practice this violation manifests itself in a systematic refusal to make decisions, a distrust of one's own judgements and in attempts to postpone the unavoidable choice of a move.

In some players the disinclination and inability to make a decision in good time becomes a habit. Bronstein often thinks for a long time, even over the opening moves. In the 28th USSR Championship he thought for twenty minutes about the first move in his game against Stein, and although he reached a promising position in the middle game all his efforts were later negated by time trouble. After he committed some errors he lost the game. Averbakh says that Bronstein once thought for forty minutes over his first move! Panov has also recalled similar instances of prolonged deliberation over the opening moves which occurred in Grigoriev's games.

In these examples we observe an uneconomical expenditure of time on deliberation, which is not evoked by any serious objective reasons. Opening systems, especially in the initial moves, are sufficiently well known to any competent player. Moreover, in these particular games neither Bronstein nor Grigoriev invented anything out of the ordinary in the opening phase, but restricted themselves to the choice of long familiar systems. Presumably their

deliberations can be explained by subjective factors: on the one hand they were solving the problem of which opening system would be more agreeable or more unattractive to the opponent, thereby mentally outlining the contours of the psychological battle, while on the other hand they were conquering their own state of over-excitement and indecision, preparing themselves for the most efficient working frame of mind.

It could be said that the majority of players deliberately achieve a reorientation of their thoughts and feelings about the coming battle quite early, even before the start of the game. The long pause at the beginning of Bronstein's and Grigoriev's games must obviously be explained by individual peculiarities of the psyche. They could only concentrate upon the game and overcome distractions once the battle had already begun, because of an inadequate self-control before the round. A clear case of the lack of the unity of intellect and will power of which we spoke earlier. As an analogy we recall Napoleon's remark about his marshal Massena, who could never work out a plan for the coming battle before it started, but only demonstrated his abilities as a commander after, as Napoleon put it "the cannons had started to fire".

We have now satisfied ourselves as to the existence of definite subjective factors which evoke an increased expenditure of time on deliberation, thereby furthering the appearance of time trouble. As we have already noted, these factors manifest themselves in the form of a refusal to take decisions and are accompanied by uncertainty and indecision. These negative character traits are created by doubts of differing sorts and by vacillations: therefore, in defining the various subjective causes facilitating the appearance of time trouble we shall analyze various types of doubt in order to discover the nature of these causes.

Doubts concerning analysis.

These appear in persistent searches in almost every position for the single, unique, best move. Hence a perfectly reasonable variation will seem not quite strong enough, the player wants to find something even more effective. As a result, time passes, the search continues, but the player's raging doubts do not allow him to make a choice. An illusory chase after the absolute truth takes place. Spielmann wrote: "From the very start such a player is devoted to a disastrous method of exaggerated conscientiousness. In every position he will search for the objectively best move, but soon he will lose all chance of orientation amongst the chaos of all the possible advantages and disadvantages. Valuable time is lost forever and ultimately, in the majority of cases, he will have to decide upon a move suggested by intuition rather than by mathematical calculation, but by this stage his imagination has been poisoned by thousands of doubts and a poor move will suggest itself to him."

Although picturesque, Spielmann's description of those players who are always

inclined to search for the absolute best method or solution may also be too categorical. It should be noted that this tendency is theoretically impossible. The variety of possibilities makes chess practically inexhaustible, hence the attempt to encompass the infinite is, as a matter of principle, unrealistic in the majority of positions. Of course master players are not so extreme in their aspirations, but in practice they often try to resolve the special features of a complicated position. When it becomes clear that this is impossible then doubts arise, the player vacillates over the choice of his move and time trouble does not take long to appear. From our own observations, the games of Borisenko, Kotkov and Udovcic will serve as examples of similar doubts about one's own analysis.

As Botvinnik has emphasized one must try to find a sensible ratio between the breadth of search and the existing time limit — at times deliberately choosing lower quality moves. Thus the well known chess adage "it is better to have a bad plan than no plan at all" is of significance in avoiding time trouble. Of course, we are not contradicting Alekhine's opinion that it is dangerous to trust first impressions and intuitive judgements without verification and that it is necessary to find the best move, but this attempt to find the best and strongest continuation should not be regarded as something that is absolute, but should be measured against what is feasible.

Spielmann gives some suitable practical advice on this subject: "Do not play too quickly. Examine every move, however natural it may look. Do not day-dream. After brief thought if you are satisfied that your intended move is not bad then play it. If you have to choose from several moves that look equally good, do not become involved in endless comparisons. Do not forget that in most positions there are several good moves, but that you have to choose only one of them or else it will soon be too late. Do not always search for the objectively best move because frequently there is no such move. In most cases it is a matter of taste — simply look for a good move!"

It should be kept in mind that in chasing after the unattainable the player tries to analyze a comparatively large number of variations, which he tries to calculate as far as possible. Such a player shows an unwillingness to abandon calculation or to make a critical judgement about the positions arising in his calculation.

Doubts linked to an exaggerated importance of the opponent's individual style.

These doubts are evoked by a subjective characterization of the opponent, which recognizes only the strong aspects of his play. Such doubts lead to an underestimation of one's own possibilities, to passive thinking and to the appearance of a network of negative emotional states — fear, apathy or impul-

siveness, uncertainty and constraint. In this case plans are generally not distinguished by lengthy calculations nor by a wide range of variations. The number of possibilities which are compared in analysis is relatively few and concrete analysis is not carried as far as usual. At the selection of a final decision the possibilities that arise are examined and re-examined many times and only after an over thorough check, which necessitates an increased expenditure of time, is the move made.

Thus, many of Tal's opponents get into time trouble because of the unnecessary accuracy and increased responsibility with which they examined the real, and at times not so real, tactical opportunities of their opponent. The impression is created that Tal's opponents looked for and found danger where it had no objective existence, their uncertainty, doubts and manifold repeated calculations were all evoked by a subjective fear of Tal's combinative abilities.

In the game Lein-A. Zaitsev, Sochi 1967, Zaitsev, who normally played quickly, found himself in time trouble. The cause lay in doubts about his own calculations, brought about by the fact that all their previous encounters had ended in Zaitsev's defeat. This was also the reason for Bilek's time trouble in his game against Taimanov, Budapest 1965; during the game the Hungarian Grandmaster calculated many of the sharpest variations open to his opponent. After the game was over it became apparent that Bilek's fears were groundless; according to Taimanov he had not even thought of inviting complications but had intended to limit himself to a small positional advantage.

An excessive faith in the strength of the opponent and perhaps an exaggeration of his opportunities are characteristic of Bronstein's play. He has said that he often rejects the most interesting continuations because in them he has seen hidden resources of defence for his opponent. In the end Bronstein avoids the objectively strongest possibilities and makes an obviously weaker move, after which his opponent can search for a defence with greater ease. Bronstein's searches for concealed opportunities and his doubts — will the opponent discover a defence? — lead him to use up time, and the only person to see these deep schemes finds himself in time trouble.

Doubts linked to the importance of the game.

Some games have a special competitive significance. One must win in order to win the tournament, or draw to complete the master's norm, or to get into the next round of an elimination contest. Often these competitive considerations create excessive nervousness and a feeling of unnecessary responsibility that lead to constraint. The importance of each move is increased since a single mistake can affect a player's overall tournament result. Not many people retain their self-possession at such times; the result of the game may exert a primary influence on the course of one's thoughts and may determine the choice of this or

that move.

The doubts which cause time trouble in these situations are most often connected with a somewhat lowered opinion of the merits of one's own position and an exaggeration of the opponent's possibilities. For instance in the game Danov-Sakharov, Irkutsk 1966, victory would have given Sakharov the right to a place in the finals of the USSR Championship. In the middle game he succeeded in obtaining an advantage by winning a pawn. It is most likely that under normal conditions Sakharov would have chosen the slow path of reinforcing his position and winning the point gradually, but under the pressure of the importance of the result he doubted that he could win by steady manoeuvring, so he hastened to force events and missed a win in time trouble.

Doubts linked to events in the game in progress.

These appear when the player realizes that he has made a mistake or missed an opportunity. Panov wrote: "A great failing in many players is the tendency to regret, during the game, opportunities missed a few moves earlier and noticed only after the event. This fruitless contemplation of variations that might have been, not only consumes precious time but also disperses one's attention and reduces the will to fight."

We would like to add something to Panov's accurate description — that doubts created by recollections of earlier mistakes in the game in progress, often lead to time trouble. In the game Ivashin-Krogius, Yaroslavl 1949, Black had the advantage. At one time he could force a pretty win, but having overlooked this possibility, Black lost the advantage and the game entered an even and fairly simple ending. Black's thoughts in this simple ending were, however, disturbed by recollections of his missed opportunity; these doubts were constantly mixed with the process of thinking about the next move and made it difficult to make a choice. The result, naturally enough, was time trouble, and Black did not even see the flag drop in a completely drawn position. There was only one move left before the time control.

A more recent example which I witnessed was the game Shamkovich-Ujtelky, Sochi 1967. Black could have obtained an overwhelming advantage in the middle game with a pretty tactical blow. Noticing this possibility a move too late, Ujtelky was put out. In his own words, his thoughts constantly returned to this disappointing mistake, time trouble intervened and the game, which had been well-played until the unfortunate mistake, ended in Ujtelky 's loss. It is not hard to quote many similar examples.

In the above cases doubts linked to an earlier error in the game not only led to an additional loss of time, but also created negative emotional states, which sharply reduced the efficiency of mental activity. Thus it became necessary to spend more time solving the simplest of problems than before the error had been

noticed. This sort of doubt has much in common with situations in daily life when people grumble "why did it happen to me?" Advice about what one should have done is given at a time when regrets no longer make sense, when it is too late to correct anything and one should concentrate all one's efforts on solving current problems at the given moment. This brief digression demonstrates once again that the basis of doubts in chess lies in the character traits of the man who is guiding the moves of the pieces.

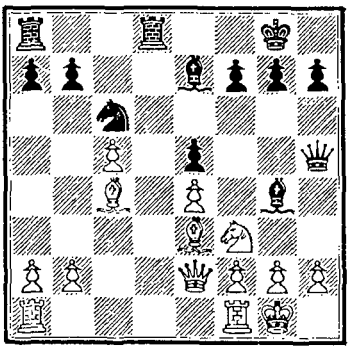
Doubts linked to the player's individual experience.

A knowledge of openings and of the typical middle and endgame techniques which is employed without a critical attitude towards one's own experience and knowledge, may be the root of doubts which lead to time trouble.

In the game Krogius-Spassky, Leningrad 1960, after the moves **1 P-K4 P-K4 2 N-KB3 N-QB3 3 B-N5 B-B4 4 O-O N-B3 5 N×P N×P 6 Q-K2 N×N 7 Q×N Q-K2 8 P-Q4 N-N3** I noticed the chance of winning a pawn with 9 B×Pch in an opening that has been minutely investigated. I thought about whether or not to take the pawn for some twenty minutes, yet the content of my thinking was not a thorough analysis of the forced variation 9 B×Pch B×B 10 Q×P O-O 11 P×B Q×P, but vacillations conditioned by the thought that no one had played this move in such a well documented variation. On the other hand I very much wanted to win the pawn. Finally faith in the validity of theory took control and I played **9 Q×Qch** which, as later analysis showed, was weaker than 9 B×Pch. The twenty minutes spent in doubt over the choice of the ninth move told during the course of the game. I should mention that during these twenty minutes I was by no means occupied in the process of a logical comparison of the two variations, B×Pch and Q×Qch, but was indulging in the abstract thought — "Is my confidence in theory justified or not?"

Similar misgivings often arise in players who needlessly trust the generally accepted and the already explored. When they are confronted with an unexpected, original possibility they regard it with suspicion and fear. They hesitate, should they cross the limits of the known and reliable, or should they be tempted by the not so clear but attractive prospect? In practice it is most frequently the case that the doubts are resolved in favour of the alternative suggested by past experience. Let us remark, however, that serious doubts about any solution to the question of whether to trust authority or not will necessitate an increased expenditure of time and facilitate the appearance of time trouble.

For example, in the game Riumin-Levenfish, Moscow 1936, White remembers that his opponent thought for thirty minutes about a sharp, strong, but rather unusual rook move which would involve the sacrifice of the exchange. The game began **1 P-Q4 P-Q4 2 N-KB3 N-KB3 3 P-B4 P-K3 4 N-B3 P-B4 5 BP×P N×P 6 P-K3 N-QB3 7 B-Q3 B-K2 8 O-O O-O 9 N×N?! Q×N 10 P-K4 Q-R4 11 P×P R-Q1 12 Q-K2 P-K4!? 13 B-K3 B-N5 14 B-QB4**



After thinking for thirty minutes, Levenfish decided on the routine move **14...N-Q5? 15 B×N R×B 16 B-Q5 B×P 17 QR-B1 B-Q3 18 KR-Q1,** and White had the advantage and won on move 35. Instead of 14...N-Q5?, Levenfish should have played 14...R-Q5! when the only good defence is 15 B-Q5 R×B 16 P×R P-K5 17 Q-B4! B×N 18 P×B Q×BP (18...N-K4 is inadequate because of 19 Q×P N×Pch 20 K-N2 N-R5ch 21 K-R1, when Black has nothing to show for the exchange.) 19 P×N, and Black has nothing better than to give perpetual check. Riumin later expressed his failure to understand this long period of thought and the decision that Levenfish finally took. We feel that his long deliberation can be explained not so much by scrupulous analysis involving the comparison of the two main lines, but by doubts of a more general nature— would it be worthwhile to indulge in risky complications when a simple knight move would win back the pawn and guarantee Black a more or less sound position?

In the examples we have quoted, the players' doubts and lack of resolution were linked to a lack of independent thought. Hence a lack of critical analysis and the habit of relying on routine make it difficult to use one's experience in a dynamic and creative way. The contradiction arising between the objective lack of clarity in a position and the subjective attempt to ignore this lack of clarity in favour of the approved and routine, tends to cause doubt and lack of confidence. This in turn leads to time trouble.

Doubts evoked by individual peculiarities of style.

If one were to analyze those games of a master in which he got into time trouble, it would be seen that, in addition to the influence of the causes of time trouble enumerated above, time trouble can also be explained by some definite character of the ensuing battle which is typical of this master. Players often find themselves in time trouble because they must play positions which are foreign to

their creative method or style and which, therefore, subjectively represent great difficulties.

Commenting on the Botvinnik-Bronstein Match, Moscow 1951, Panov remarked that Botvinnik's time trouble generally arose in complicated, dynamic positions where the unusual nature and the originality of the problems facing him permitted a lesser degree of reliance upon the logic of strategic considerations. These situations were subjectively distasteful to Botvinnik, as they did not correspond completely to the major characteristics of his style — logical plans, sound play and faith in the scientific logic and causality of changes of events on the board.

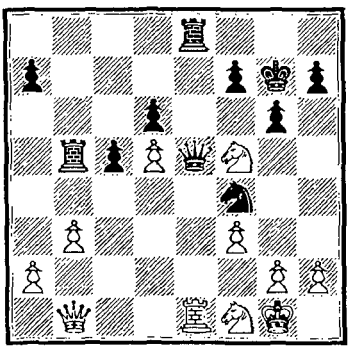
In connection with this we mention the remarks made in self-criticism by Botvinnik, who often emphasized the defect in his play — "A weakness in combinative vision." So these dynamic positions, which were as yet unformed in their strategic structure, were relatively difficult, as regards choice of move, even for Botvinnik. These difficulties, which were evoked by individual features of his style of play, led to lengthy deliberation and to time trouble, in which Botvinnik committed serious errors in certain games.

Panov also pointed out that, "as opposed to Botvinnik's time trouble, that of Bronstein was caused by the large number of technical positions where his opponent had an insignificant positional advantage." Here we also observe the direct relationship between the time taken for deliberation and the characteristics of a player's style. The rich imagination of Bronstein's artistic style was unaccustomed to these tiresome, unpleasant situations, which required accuracy of execution but gave less possibility of discovering original combinative ideas. It can be said that positions containing a small number of pieces, which were obstacles for Bronstein, would have given Botvinnik only minimal chances of getting into time trouble.

We can cite further examples: Nezhmetdinov, who adjusts comparatively quickly to tactical complications but gets into time trouble in slower manoeuvring battles, or Korchnoy, who uses more time for analyzing his attacking possibilities than he does for the defence of a difficult position. All these examples testify to the existence of a causal connection between time trouble and the individual characteristics, in this case the weak points, of the player's mental activity.

A knowledge of the individual features of an opponent's style which predispose him to lengthier deliberations in certain positions, is often exploited in practice as a means of psychological warfare. We quote the game Gligoric-Tal, Belgrade Candidates' Tournament 1959. By move 26 Tal had achieved a small advantage that was, however, hard to exploit with a regular, slow continuation of the game. Counting on Gligoric's inclination towards a clear, logical type of battle, Tal chose a sharp, hazardous continuation, which was not

objectively the strongest. Tal's calculation was justified. Gligoric was confused by such unorthodox play, he thought for a very long time, got into time trouble, committed a number of serious mistakes and lost the game.



There followed **26...P×N!?** Gligoric wrote: "Characteristic of Tal; Black had a much safer and objectively better continuation in 26...Q×N 27 Q×Q P×Q 28 R×R N×QP after which White would have to fight for the draw... Black, relying on his opponent's time trouble, however, chose a sharp position where White is deprived of a clear plan of play."

The game continued **27 R×Q R×R 28 P-N3 N-K7ch 29 K-B2 K-N1 30 N-K3?** 30 P-KB4! R-K1 31 Q×P **30...N-Q5 31 P-KB4 R-K5 32 P-KN4!? R×BPch 33 K-N2 P×P and Black won.**

Apart from the subjective causes which we have mentioned and which we consider to be the basic ones in producing time trouble, some others can be pointed out. These are doubts linked to aesthetic views of chess, to the contemporary fashion in definite positions and to methods of play. Thus, for example, Averbakh recalls one of his games when, in a winning position, he went into a deep study upon seeing two possibilities of striking a decisive blow. Instead of examining each of these ways, Averbakh was preoccupied with the abstract theme of "which is better from the aesthetic point of view—elemental beauty or a clear simple continuation?" In Averbakh's own words: "In the end I came to a logical conclusion, that sacrifice is an unnecessary beauty, and I chose the other way, which seemed to me to be simple. In the course of events, however, it became clear that I had overlooked the loss of a piece in the middle of the variation, play became extremely complicated and I achieved victory only after a colossal effort."

So, how can one escape the disease of time trouble, rightly called the scourge of chess creativity? From this brief account of the causes of time trouble one notices that the sources of "infection" encompass a vast area of the player's emotional and volitional reserve and character. An analysis of the concrete causes of time trouble will help in establishing a more serious and all round attitude towards the battle with this complicated psychic phenomenon. After all, time trouble is not an unavoidable consequence of thinking over the secrets of chess artistry, but is largely the result of the mistaken attitude of the player towards those secrets.

CHAPTER 6

Effects and Cures of Time Trouble

In this chapter we shall examine the dynamics of mental processes, a player's capacities for generalization and also the attributes of critical thought and independence of thought during time trouble. Firstly it should be noted that the high-speed thinking demanded by time trouble produces an exceptionally tense state in the volitional and emotional components of the character. Having thought of a move it has to be played without delay. Rapid changes in the position evoke a heavy sense of responsibility for every projected possibility and also produce a state of fright and uncertainty concerning the methods of play which have already been proposed and adopted.

During time trouble, with its volitional concentration and emotional boost, a contradiction is often observed between the subjective effort to raise the efficiency of mental activity to its maximum and the objective impossibility of understanding the position deeply enough to outline the way to a solution. As a result the negative resolution of the conflict (in a loss, a blunder or an error) leads to a sharp reduction in the player's emotional and volitional form over a comparatively long period. Time trouble is a hard test of character and repeated playing in time trouble increases the tendency towards a general reduction of volitional qualities and raises the player's emotional excitability.

The dynamics of the mental processes.

During time trouble the capacity for an objective and critical judgement of the changes in the position is, as a rule, lowered, but in the search for a move the emphasis on the static, relatively constant elements in the position is increased. These characteristics of thought are manifested in the following tendencies in play during time trouble:

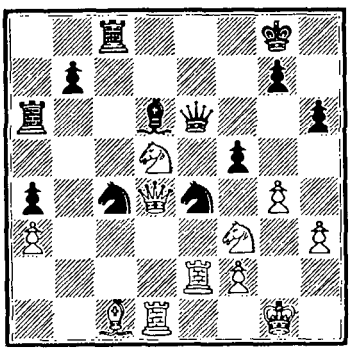
(1) *The tendency towards the superficially obvious, straightforward or natural moves.*

This tendency in thinking is characterized by a considerable curtailing of the number of alternatives for examination. The object of thought in a position full

of *tactical possibilities is often a possibility* which contains a direct threat or helps one to repel a threat. Thus, a direct attack on a piece produces the reaction that it is necessary to protect that piece.

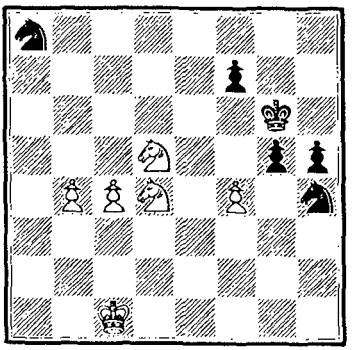
The deciding factor in the choice of a move is often the attempt to make a direct attack (the threat of capturing a piece, mating, etc.). Frequently, play progresses on the principles of "defend-attack".

Let us quote a position from the game Botvinnik-Reshevsky, World Championship Match Tournament 1948.



Keres wrote about this position: "In time trouble, Black failed to find a satisfactory reply, and made the first move he thought of, not only losing all the advantages of his position, but also getting into trouble." Reshevsky played **28...B-B4??** It is curious that in a serious time shortage the first move at hand was an attack on the opponent's strongest piece—the queen. In my view this choice was no accident, in that the other possible move, which also repelled the threat to his KBP, could not satisfy Black (28...P×P 29 R×N). From the possible moves in the position which were linked to the slogan "attack is the best method of defence" Reshevsky chose 28...B-B4. The subtle variation demonstrated by Keres with 28...N-N4, leading to a clear advantage for Black, did not enter Reshevsky's thoughts; under the conditions of time trouble it did not satisfy either of the two requirements of a solution, that of direct defence or that of direct attack. The game ended in a win for White.

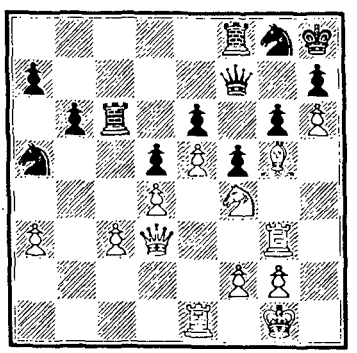
In a sharp tactical battle the need to carry out a direct attack or defence in time trouble leads to piece exchanges which are not based on an objective assessment of the position. In the following diagram is a position from the game Boleslavsky-Pirc, Helsinki Olympiad 1952.



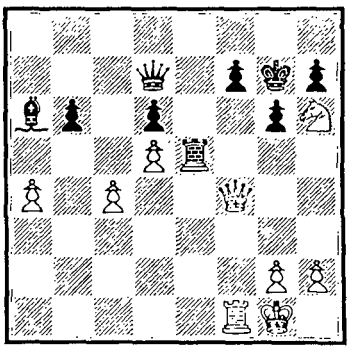
In time trouble Boleslavsky "automatically" selected the natural move and exchanged pawns **40 P×P?** As subsequent analysis showed, the direct exchange was an error and the winning move was 40 P-N5. The game ended in a draw.

Similarly, during time trouble, concrete calculation is not characterized by a broad examination of the possible consequences. Intermediate moves are often forgotten as are subsidiary variations. This testifies to an inadequate distribution of attention during time trouble. A reduction in the dynamic qualities of thinking is revealed in calculation. In many cases I have observed that players calculated variations as if they were following the rules of draughts, that is they based their analysis upon assumed compulsory captures of exchanged or sacrificed pieces and pawns.

The next position is from another Reshevsky-Botvinnik game from the 1948 World Championship Match Tournament.

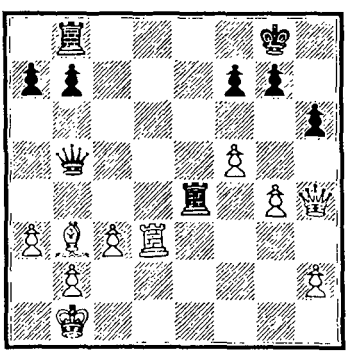


In time trouble, Reshevsky went into the variation **29 B-B6ch? N×B 30 P×N N-B5.** Apparently he overlooked this strong intermediate move, as he considered the capture 30...Q×BP to be compulsory after which 31 R(3)-K3 leads to an advantage for White. A similar example is the game Kan-Flohr, Moscow 1936, where in time trouble Flohe relied upon the compulsory capture of an exchanged piece by the opponent.



Here Flohr should have played 40...Q-K2!, and after 41 N-N4 R-K8 42 Q-Q4ch P-B3 43 P-R3 R×Rch 44 K×R P-R4 45 N-K3, the chances would be roughly equal. But on the last move of the time control Flohr saw the opportunity to win a pawn, and played **40...B×P??** expecting the reply 41 Q×B. Kan replied **41 N-N4!,** threatening 42 Q×B, 42 N×R and 42 Q-R6ch, whereupon Flohr made one more move out of inertia, **41...R-B4** and then **resigned.**

Another example is the game Suetin-Krogius, 34th USSR Championship Tbilisi 1967. The following position was reached after Black's 34th move (34...Q-N4).



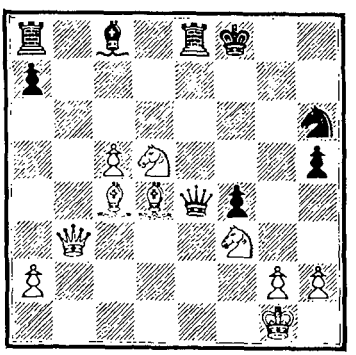
Suetin played **35 Q-N3,** defending his own rook and threatening Q×Rch, and he assumed that Black had to move the attacked rook or defend it. But after **35...Q×B 36 Q×Rch K-R2,** Suetin suddenly discovered that he could not avoid mate, and after **37 Q-N3 R-K7** he **resigned.**

The attempt to find direct solutions by means of a relatively peaceful manoeuvre manifests itself in a choice of moves based upon automatic methods of technique. Examples are the automatic placing of pawns on squares of an opposite colour to those controlled by one's own bishop, or of the creation of flight squares in a castled position.

Alekhine said that: "One should never rely on the apparent safety of natural moves." This remark could also be applied to play in time trouble.

(2) The tendency to rely on the relatively constant, static elements of the position.

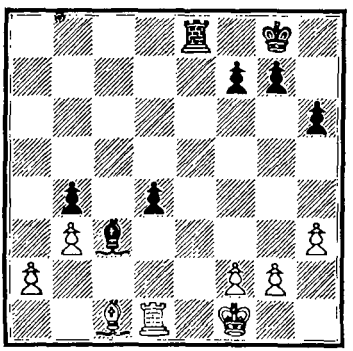
This tendency manifests itself particularly in the attempt to gain material advantages. The player in time trouble is often guided by the following considerations—"The initiative may expire, but the extra piece will endure. The material advantage is the more dependable." As Bronstein put it: "In time trouble everybody grabs pawns." Dynamic factors that depend on the relative value of the pieces recede into the background; a player in time trouble is in no condition to make an objective evaluation of the relative value of the pieces which is changing at every move, therefore he is guided by the formal, absolute value of the pieces.



In the above diagram is a position from the game Simagin-Udovcic, USSR-Yugoslavia Match Belgrade 1961. White has obtained a fierce attack by sacrificing the exchange twice. Here 33 P-B6 wins at once, but having fallen into

time trouble, Simagin lacked time to assess the hidden, dynamic possibilities of the position, and hoping for the speediest restoration of the material status quo he played **33 N-B6.** Here are his comments on that move: "Today I shudder to recall this disastrously weak move ... usually I do not play for the immediate restoration of material after a combination." The game was drawn.

The next position, from Benko-Gligoric, Candidates' Tournament 1959, is also instructive.

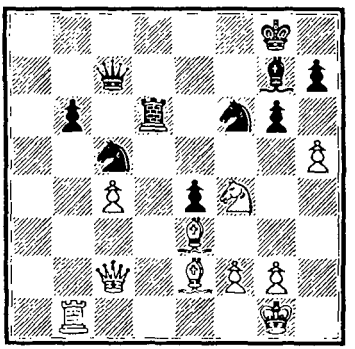


Benko was in time trouble. Seeing that Black threatened to win a pawn with 34...R-R1, Benko made a quick and (thus far) correct decision to maintain material equality. There followed **34 P-R3 P×P 35 B×QRP R-K4 36 B-Q6?** But this is a mistake, although it is easily understood when we consider White's decision not to allow any loss of material. It would be better to go for the temporary pawn sacrifice 36 B-B1 R-QN4 37 B-Q2 R×P 38 B×B P×B 39 R-B1, when White regains the pawn by bringing up his king. In the actual game Gligoric obtained good winning chances.

Just as the player in time trouble tries to grab material as a form of insurance, so he also tries to occupy strongholds with his pieces and secure a safe spot for the king.

These tendencies of a player's mental activity when in time trouble, reveal an exaggeration of the importance of the static elements of the position and an assessment of the dynamic possibilities which is not completely objective. In practice this results in a decreased ability to see unexpected replies and various tactical tricks by the opponent. Such tactical tricks and traps have a comparatively higher chance of success in time trouble, not because of their objective merits, but because of the element of surprise. As a rule, a time trouble

trap is based on the opponent's natural reply and the opponent, not realizing the hidden threats lurking behind the innocent first move, often reacts to it directly and falls into the trap.



This is a position from the game Reshevsky-Keres, World Championship Match Tournament 1948. Commenting on Reshevsky's move **35 P-R5**, Keres wrote "Black now falls into a typical time trouble trap. 35 N-Q5 at once is objectively better." After the obvious, but incorrect reply by Keres, **35...P-KN4**, on which Reshevsky had based his plans, White obtained a decisive advantage and soon won the game, but the "unnatural" 35...P×P was stronger, breaking up White's pawn formation.

Other games from the same tournament which are full of time trouble surprises are Euwe-Reshevsky and Smyslov-Keres, where relying on the opponent's obvious reaction was fully justified.

The player's ability for generalization and abstraction.

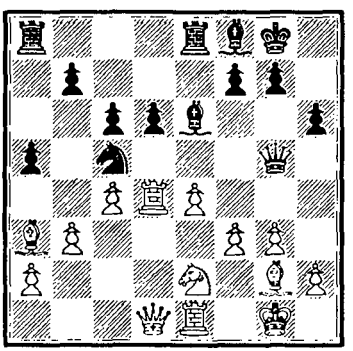
Bronstein once wrote: "The closer a player is to time trouble, the less he thinks about strategy and the more about tactics". It should be noted that in time trouble we observe the tendency to think about comparatively simple problems with definite concrete aims. Considerations for the unity of a single strategic plan with a general assessment of the position retreat into the background. The quality of strategic ideas is also significantly reduced in time trouble, as calculation has a more limited character in that it is directed towards simpler goals that can be accurately reached by an analysis of variations. Therefore, during time trouble, the strategic and tactical elements are less in evidence than they are during normal playing conditions. Yet Bronstein's remark still holds good, as it characterizes a typical time trouble trait -- a reduced capacity for a general assessment of the situation and a tendency to

rely upon the most striking elements of the position. It is therefore tactics rather than strategy which appear as the comparatively dominating element in play.

These features of mental activity during time trouble are characterized by the following tendencies:

(1) The tendency to simplify.

The attempt for maximum clarity and simplicity in a position is evoked both by objective necessity and by the realization of the practical impossibility of satisfactorily solving the problems of complex, dynamic situations. Simplicity in the position is achieved via exchanges or by limiting the mobility of the opponent's pieces and pawns, and simplification is usually forced by the player who has the advantage or an approximately even position. In extremely difficult positions methods of simplification are generally not applied, since this would normally ease the possibility for the opponent to cash in on his advantage. Often the attempt to simplify is incorrect objectively, but is dictated by the negative emotional feeling of doubt which arises in players during time trouble.



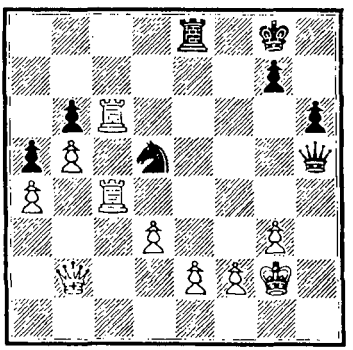
Benko-Keres

Concerning Benko's offer to exchange queens in his game with Keres, Candidates' Tournament 1959, Ragozin wrote: "White has obtained a great positional advantage by placing his pieces well. Black is squeezed in the centre and lacks any kind of counterplay. The pressure could have been reinforced by 23 N-B4, but Benko unexpectedly made a paradoxical decision — to exchange queens **(23 Q-Q2)**. Probably this decision was induced by the approach of time trouble."

Bronstein wrote in a similar manner about the reasons for simplification: "There was no time left to calculate variations, so it is understandable that

Reshevsky chose a simpler continuation." In the position from the game Simagin-Udovcic, examined on page 127. Simagin also remarked that in time trouble he decided to force simplification and thereby missed a win.

However, there are instances when the objective requirements of the position and the peculiarities of the conditions of time trouble do not contradict each other in the player's attempt to simplify the battle. Usually these cases are positions with a material preponderance or which contain definite strategic advantages.



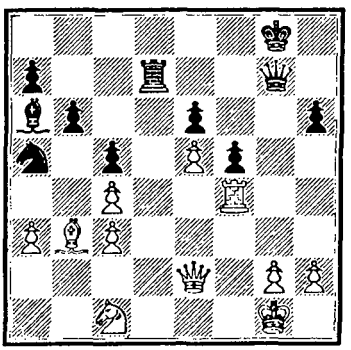
This position is taken from the game Ragozin-Taimanov, Leningrad 1965. White is in severe time trouble and gladly agrees to some simplification, even returning part of his material advantage: **34 R-B8 N-B5ch 35 R×N R×R** and **White soon won.**

The tendency to simplify is closely linked with the effort to avoid making complex, committal decisions. In practice it appears as a tendency to confine oneself to delaying tactics during time trouble, which is observed in players who consider their position to be favourable. In positions which they consider to be hopeless however, they are ready to indulge in all manner of complexities in the search for an escape route.

Concerning one of his games from the 1948 World Championship Match Tournament, Keres wrote: 'The last moves were made in severe time trouble. Both opponents chose the most neutral moves possible, in order not to spoil the position by some chance, weak move". Here Keres emphasizes that in time trouble, unless it is absolutly necessary, it is psychologically difficult to make a committal move, because it cannot be given adequate consideration and its assessment will depend upon accidental factors to a greater degree than usual. Bronstein also wrote in the same vein when he analyzed a complicated and daring variation from the game Stahlberg-Boleslavsky, Zurich Candidates'

Tournament 1953: "One must not choose such a variation during time trouble."

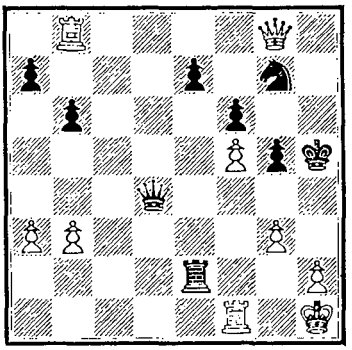
Smyslov's games from the 1953 Zurich Candidates' Tournament against Euwe, Geller and Petrosian are instructive for an understanding of the peculiarities of thinking in time trouble. Smyslov played a whole series of repetitive moves in these games without altering the strategic elements of the positions, in order to postpone making a decision until he had escaped time trouble. Here is an excerpt from one of these games.



Geller-Smyslov

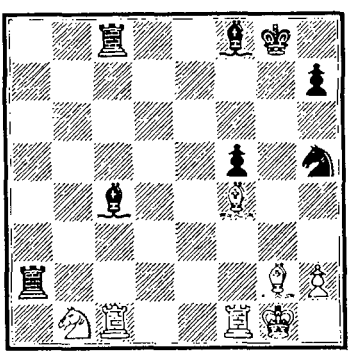
The game continued **31...Q-N4 32 P-N3 K-R2 33 K-B2 Q-Q1 34 Q-R5 R-KN2 35 Q-K2 R-Q2 36 Q-R5 Q-N4 37 Q-K8 Q-K2 38 Q×Qch R×Q 39 B-R2 R-Q2 40 K-K2 B-N2** The time scramble was now over and Smyslov proceeded to realize his advantage: **41 B-N1 K-N1 42 P-N4 P×P 43 R×Pch R-N2 44 R-R4 R-N8 45 K-Q2 K-N2 46 B-Q3 B-B6 47 R-B4 B-R4 48 N-K2 R-N7 49 K-K3 R-N4 50 P-KR4 R×Pch 51 K-Q2 N-N6ch 52 K-Q1 R-K6 53 K-B2 P-K4 54 R-B2 P-K5 55 White lost on time.**

In the examples we have reviewed we observed a reduction of mental activity and even indecision. One must bear in mind that the attempt to introduce a waiting character into the game also depends upon the opponent who tries to prevent this from happening. In practice we frequently encounter so called "time trouble checks". Such checks are most often explained, not by some well thought out plan, but by an effort to delay the appearance of the opponent's counter plans, if only for another move, thereby postponing the necessity of making a decision. Frequently such checks turn out to be errors and materially harm one's position.



This is a position from the game Winter-Capablanca, Nottingham 1936. After 37 Q-B4 the position would be lost for Black, but in order to gain time Winter decided to give check and only then, after the time control, to contemplate the situation. There followed **37 Q-R7ch** and White had to resign as the black king unexpectedly found a safe haven on N5 while his white counterpart was helpless in the face of mating threats. (After 37...K-N5, if 38 P-R3ch K×P 39 R-KN1ch then 39...Q×Rch and mate next move.)

In his desire to defer making a decision, if only for a move, Udovcic let victory slip away from him because of a time trouble check, in his game against Geller from the 1961 Yugoslavia-USSR Match in Belgrade.



Geller-Udovcic

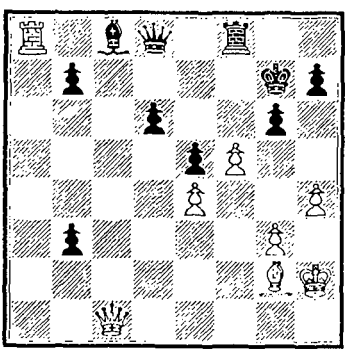
Black's advantage is obvious—not only is he a pawn up but his pieces are very actively placed. In fact he can force the win of material by 40...R×Bch 41 K×R N×Bch 42 R×N B-Q4ch and 43...R×R, but wishing to defer the decision about

which piece to capture first, Udovcic played **40...B-B4ch?** This move completes the first time control, but after **41 K-R1 B×R 42 B-Q5ch K-N2 43 B-K5ch K-N3 44 B×R B-R3 45 B-Q5,** Black was unable to convert his extra pawn into a win.

The mental tendencies towards simplification, delaying tactics and the avoidance of complex, responsible decisions, which we have examined, lead to fragmentation in thinking and a lack of consistency in play. The logical bond between separate moves is violated, future plans conflict with past plans and there is a resulting confusion of ideas. Frequently, play during time trouble consists of unconnected one-move plans.

In the game Kan-Ragozin, Moscow 1936, Black won a pawn, but thereafter, instead of logically repulsing his opponent's weak threats, he busied himself with rook manoeuvres along the route QB1-KB1-QB1 and KB2-KB4-KB2-KB6. Each of these manoeuvres was associated with a one move aim of defence or attack, but was not a link in the chain of a consolidated plan. As a result Black soon lost what had been the better position.

A similar situation may be observed in the finish of the game Benko-Keres, Candidates' Tournament 1959.



39 P-B6ch K×P Now one would expect 40 B-R3, since this is the point behind the pawn sacrifice. Before completing this idea, however, Benko abandoned it and his thoughts transferred to a new idea. He played **40 Q-K3?** and after **40...P-N7** he lost. A total dissonance of ideas.

The games Olafsson-Tal and Gligoric-Smyslov from the same tournament may serve as examples of the lack of consistency and fragmentation of thinking in time trouble.

I feel that the inconsistent play in all these examples did not arise accidentally; the emphasis on solving particular problems drives strategic planning out of the game and binds the separate particular tactics into one. As a

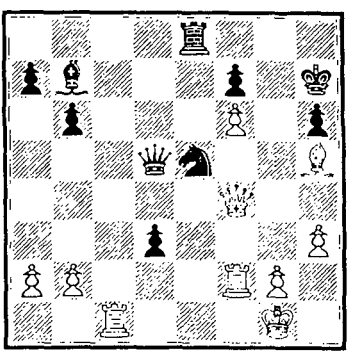
result, with increasing time trouble, the logical sequence of events is violated and a logical basis for strategic decisions becomes impossible.

Other features of critical thought in time trouble.

We have already discussed the tendency of players in time trouble to avoid far reaching decisions, their urge to simplify and their emphasis on the permanent, static factors in the position. A comparative reduction in the critical thinking of the player in time trouble is directly linked to these traits and this feature appears on the one hand in an excessive passivity in regard to one's own plans, a lack of belief in one's active possibilities and an avoidance of attempts to draw up and defend one's own treatment of the position. On the other hand, the strength of the opponent's active plans is exaggerated. Thus, an uncritical attitude arises towards the opponent's possibilities as well as one's own. In time trouble a player's uncritical thinking is often connected to the narrowness of his attention and thinking. An exaggerated image of the strength of the opponent's threats often produces over-excitement, leading to dangerous and impulsive decisions. Let us now examine these features of thinking during time trouble in greater detail.

(2) *The tendency to select relatively passive continuations.*

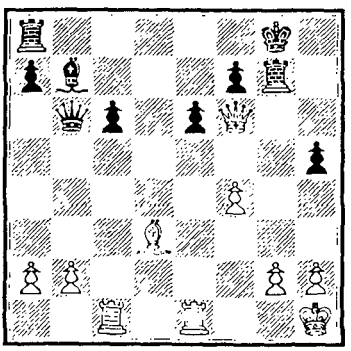
This tendency is characterized by the effort to avoid active operations involving any kind of risk, as far as is possible. Keres wrote about one of his games with Botvinnik from the 1948 World Championship, that in time trouble he was unable to calculate a complicated, but active variation and therefore he chose a passive defence. Subsequent analysis showed that the active variation would lead to a draw, but by going into a passive defence Keres lost the game. Similarly, in the game Botvinnik-Smyslov from the same tournament, White, in time trouble, decided against an active raid by his king which involved a pawn sacrifice, and lost his winning chances.



Here is a position from the game Flohr-Capablanca, Moscow 1936.

Flohr is the exchange up. 30 R-B7 would have been decisive—this move fits in successfully with the attacking positions of White's pieces. However, in time trouble, Flohr decided to group his pieces together, not for attack but for defence, positioning them nearer to his king. He played **30 B-N4? N×B 31 P×N K-N3 32 R-Q1?** Again 32 R-B7 was strong. **32...B-R3 33 Q-B5ch** and the game soon ended in a **draw.**

A similar state of affairs occurred in the game Krogius-Korchnoy, 34th USSR Championship, Tbilisi 1967, where White thought for a long time about the consequences of a tempting rook sacrifice, got into time trouble and chose a sounder, but weaker continuation.

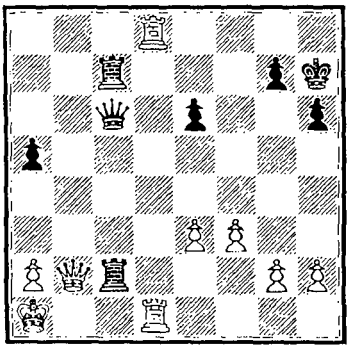


After 24 R×KP!!, the position becomes extremely complicated: 24... P×R 25 Q×Pch K-B1 (or 25...R-B2 26 B-B4 Q-B2 27 R-Q1! R-KB1 28 R-Q6 and Black has no defence) 26 Q-Q6ch K-N1 (26...R-K2 is met by 27 R-K1) 27 R-B5! Q×P 28 Q-K6ch R-B2 29 R-KN5ch K-B1 30 Q-Q6ch R-K2. Now 31 Q-R6ch is met by 31...Q-N2!, but by means of 31 P-KR3! White sets his opponent insoluble problems, e.g. 31...R(1)-K1 32 B-B4 Q-R1 33 Q-B6ch!, or 31...P-B4 32 B-R7! (not 32 B-B4 B×Pch!).

On coming into time trouble I chose the less active path: **24 B-K4 P-B4 25 R(B1)-Q1 B×B 26 R×B R-N3 27 Q-B3 R-Q1** and the game was eventually drawn.

This tendency towards passivity often manifests itself in an effort to secure the mutual defence of a group of one's pieces. The anxiety not to forget about any of the pieces scattered on the board compels the player to keep them in as compact a group as possible, in order to avoid dividing his attention between different parts of the board.

The following position is from one of the Euwe-Keres games played in the 1948 World Championship.



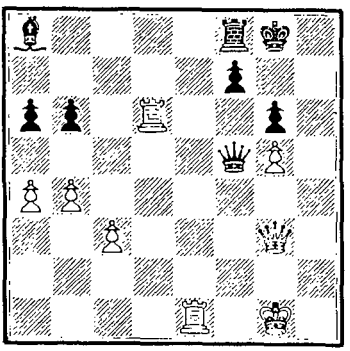
Hoping to create a compact group of pieces in the centre, Euwe played **34 Q-Q4?** forgetting the danger to his king. After **34...R-B8ch** he soon resigned. 34 Q-R3 would have provided a defence but, apparently, White had not considered this because of the resulting dispersion of his forces.

Thus, the tendency to make an obvious "over-insurance" during time trouble manifests itself in the distribution of the pieces according to the principle "no need for anything ambitious; just let them protect each other".

We do not completely condemn expedient methods of play, which after all have often been justified in practice. The examples cited here and in other sections, showing instances of mistakes made during time trouble, serve only for the purpose of illustrating my opinion that the efficiency of mental activity definitely decreases during time trouble in by far the majority of cases.

(3) *The tendency to over-estimate the merits of the opponent's active possibilities.*

This tendency is, in general, characteristic of many players, but during time trouble it shows itself with considerably greater force. If, under normal conditions, a careful player, seeing a threat, assesses the danger more or less objectively, then during time trouble, when there is no time to analyze, the threat gives rise to an increased feeling of apprehension and therefore in his search for a reply the player is more often involved in the attempt to find a direct defence rather than in trying to refute the opponent's plan.



This position is taken from the game Ciric-Polugayevsky, Vrnjacka Banja 1965. Here Ciric mistakenly played **40 R(1)-Q1**, about which he wrote: "In time trouble Black's threats along the QR1-KR8 diagonal seemed frightening to me and I made a 'solid' move instead of 40 R×QNP, after which the outcome of the game would have been clear."

The appearance of impulsive decisions and dangerous play during time trouble is linked with a lack of confidence in the strength of one's own position and an exaggeration of the strength of the opponent's active possibilities. This is not confidence or boldness, but rather the desire to play something on the off-chance that it will dispel emotional and volitional tension. By way of an analogy there springs to mind serious difficulties, not in chess, but in life, when a man gives up the struggle, throws in his hand or even performs the most desperate actions in order to come to some kind of result more quickly and thus be freed from nervous tension. A condition of severe mental disturbance can be observed at times in such cases and is found in all players during time trouble. Discussions held after the game reveal that experienced masters are unable to explain the reasons for one move or another which were contrary to elementary common sense. They maintain that they made these moves in opposition to their understanding of chess in general and to their intentions in the given game in particular. As an example I shall refer to the game Krogius-Osnos, 34th USSR Championship, Tbilisi 1967, where, having assessed the critical position several moves before it actually arose, I decided to force a draw. I became more and more convinced of the accuracy of my judgement with each move and attributed more and more significance to my opponent's threats. Suddenly I made a U-turn, began a dangerous attack and lost. The reason for this was the exceedingly strong impression made by Osnos' threats (the possible advance of passed pawns in the centre) and this produced a negative emotional reaction, leading to a sharp reduction in my critical thinking.

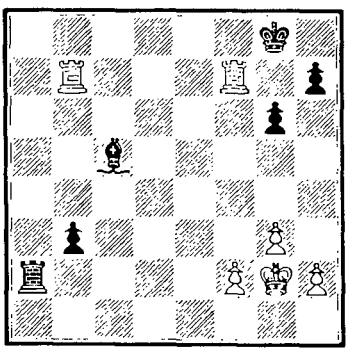
A comparison of the characteristics of man's mental states during attack and defence reveals that the player has greater difficulty in controlling his behaviour during conditions of defence. "I always find that attack acts upon the opponent's psychology and that by this alone the stronger will is revealed", wrote M. B. Frunze*. This may also be applied to chess. A tendency towards passivity and defence evoked by time trouble therefore creates relatively greater difficulties for the player in his attempts at self-control and also facilitates the development of uncritical thought, lack of self-confidence and other deficiencies in thinking.

The cases that I have examined should not, of course, be taken as compulsory models for every individual time trouble duel. In practice every case of time trouble contains its own particular subtleties, which depend upon the conditions and the opponents. I have dwelt only upon some general trends, which I consider to be important for a further investigation of this complicated problem.

The negative influence of time trouble.

In examining the features of players' thought processes during time trouble I discovered the presence of a general tendency towards a reduced efficiency in mental activity. In this connection the following questions are of interest—Is it possible to trace a definite correlation between the reduced efficiency of mental activity and the onset of time trouble? What is the significance of each of the separate components of thinking (logic, intuition, creative imagination) under conditions of time trouble?

To answer these questions it is first necessary to consider the features of the mutual links between the player's general experience and his experience of the course taken in the particular game in which he is in time trouble. Let us consider some practical examples.



* A Red Army General during the 1918-1920 Civil War.

The diagram shows a position from Reshevsky-Boleslavsky, Zurich 1953. Reshevsky was in time trouble. In order to understand the ensuing battle it is important to take account of Bronstein's remark: "Fearing that he might put something *en prise* in time trouble, Reshevsky decided to make the moves R-KB7-KB3-Q3-Q7-KB7 which was possible with the black pawn on QN6, but gave Black a chance of salvation with the pawn on QN7." The game went **34 R-B3 P-N7 35 R-Q3 B-B1 36 R(3)-Q7** Better is 36 R-Q8 as now Black could escape by 36...R-R2, but Reshevsky played according to his plan. **36...B-B4?? 37 R-Q8ch B-B1 38 R(8)-N8** and **Black resigned.**

From an analysis of this case it may be said that White's play in time trouble was based very much upon what had been prepared in a preliminary calculation (the manoeuvre R-KB7-KB3-Q3-Q7) and a general assessment of positions arising in the future. In this way White's play during time trouble was directly linked to the experience of the "history" of this game (although the preliminary mental conclusions of the advantage of the rook manoeuvre to Q7 turned out to be faulty) and the ensuing events during time trouble had been almost completely planned beforehand.

Cases are often observed, however, in which the strategic or tactical ideas planned in the opening or the beginning of the middle game are not realized at once, but only considerably later under conditions of time trouble. Thus, for example, in the game Flohr-Ragozin, Moscow 1936, between the 17th and 25th moves Black was energetically preparing a plan which included the advance of his QP from Q4 to Q5. He succeeded in executing this advance on move 33 when he was already in time trouble and after various changes in situation and plan had taken place; yet Black's decision was surely influenced by his past deliberations about the faults and advantages of this move which had taken place nearly twenty moves earlier.

The player's emotional experience from the earlier course of the game, and even from past contests with the same opponent, is preserved in time trouble. In his game against Keres at Tallin 1965, Korchnoy did not see the outline of Keres' impending attack in time. Firstly he was still under the influence of his own initiative that had existed in the first half of the game and secondly he was obviously influenced by Keres' plus score from their previous encounters.

Time trouble is thus seen to be a phase in the game, which is inseparably linked to the game's preceding development. Earlier plans, tactical ideas and judgements of positions are preserved in time trouble to a certain extent. The player's past experience is projected into the time trouble phase in a creatively reworked form, adapted to the concrete conditions of the particular game. Therefore, past experience, viewed in a concrete form in the particular game, exerts a substantial influence upon the player's thinking during time trouble.

EFFECTS AND CURES OF TIME TROUBLE

There is a basic difference between blitz games and time trouble, contrary to the widespread opinion that these two phenomena are practically identical. Blitz is fast play, which in practice lacks any experience from an earlier, slower phase of the game. Play in time trouble has considerably greater scope for a creative approach to the selection of moves than play in blitz games, owing to the previous stages in the development of the position: by the onset of time trouble the structure of the position has already been created and one or another of the various plans and tactical operations has been realized. A player's past experience of the game in blitz play emerges in a fragmented form and is largely limited to establishing analogies according to the obvious superficial features of the position.

The psychological character of these two phenomena is also different. Bronstein has said that it is easier to play a blitz game in one minute than to find the right move in a serious game in 5-10 minutes. Time trouble is accompanied by an exceptional concentration of volitional and emotional processes which demands an intense mental activity. Bronstein's words are completely true: "It is no secret that every one of us, having safely escaped from time trouble, thinks about the sealed move last of all during the next ten minutes. Only after calming the nerves can one settle down to real thoughts."

If you will permit me the comparison, a chess player in time trouble is like a miser who, towards the end of his days, has to part with his wealth, whereas playing five-minutes chess is like spending an unexpected inheritance which one has acquired without effort. In other words, in time trouble one parts with the fruits of one's arduous labour, whereas in blitz games one easily gains riches and equally lightheartedly loses them.

Nevertheless many chess players like playing five-minute chess. It is difficult to explain this addiction if we look only at the adverse side of blitz. Why, then, is five-minute chess so attractive? I think that above all it is the rapid alternation of emotional states. While a serious game of chess raises the tension of one's nervous state, the blitz game is more of a relaxation.

Of all the kinds of chess activity—tournaments, studies and so on, five-minute chess is most like a pure game, the elements of science and art receding into the background.

The combination of blitz games and serious chess, as a rule, is harmful. Blitz games, however, have their use in training and chess study. With the help of these games one can sharpen one's speed of reaction to changes in position, and this improves one's capacity to transfer one's attention, particularly in time trouble. Furthermore, to a certain extent one can check up one's openings, and a chess player who has not played in serious tournaments for a long time can refresh the working condition of his chess thinking, re-establish his chess habits and strengthen his technique.

We have noted both the connection between time trouble and the experience of the course of the given game, and the great significance of this experience for play during time trouble. Before examining the role of the separate components of thinking under conditions of time trouble a general remark should be made, that all of them reveal a greater efficiency the closer the connection between the time trouble conditions and the earlier stages of the game. Many examples of excellent play by players in time trouble could be mentioned, however an analysis of such games reveal a common trait—the highest quality of play is seen when the time trouble position arises in reasonable consistency with the rest of the game and there are no sudden changes in the natural course of the game.

The logical components of thinking.

During time trouble it is difficult to assess a position by way of conclusions based on intellectual thought. In the cases where assessments from the phases before time trouble are no longer applicable, the logical assessment of the position often manifests itself in a mixture of individual judgements (there is an extra pawn on the Q-side; on the other hand there is a strong knight on Q4; but also a threat of P-KB4, etc.) such judgements are not united in an overall assessment.

Generally, the ability for making a general, logical assessment of a position is considerably reduced during time trouble. Korchnoy emphasized this point: "The important, but most difficult thing to decide is where the pieces will stand best and to which regrouping should the opponent be provoked? In other words to make a strategic assessment of the positions which arise in the variations under calculation."

In general the calculation of variations shows signs of considerable curtailment. Long continuations are not calculated, only the short ones are examined—the two or three move variations (the opponent's direct threats and the obvious possibilities of one's own position). The number of variations which fall within the scope of one's attention is also reduced, sometimes to only two or three alternatives. Therefore it is frequently the case that a mechanical reaction is made in answer to an unanticipated move by the opponent and one makes a move that has been prepared for a different continuation. All the same, despite the limitations and brevity of analysis during time trouble, it remains one of the player's basic tools of thought, since it is here that the general ideas retreat into second place and the solving of particular problems becomes the main concern.

Intuition.

Intuition emerges quite distinctly in positions that are similar to those situations which have been the subject of analysis in the earlier phases of the game. However, any attempt during time trouble at checking intuitive

suggestions by the use of logical analysis will prove inadequate. In those positions where the logical sequence of events has been violated, intuitive conjectures do not normally arise. During time trouble, however, we often observe a sudden insight into the tactical threats or other elements of a position; quite often the correct moves are chosen without any preliminary deliberation.

The psychologist Y. Ponomarev does not attribute these insights to creative intuition and I fully share his opinion in this. This sudden insight into combinations and positional nuances is not a discovery of new, original ideas of strategy and tactics in chess and it is not creative intuition, as we have already stated above. It consists of elements of thinking and particular intellectual habits, which have become automatic. These tactical ideas and slight positional differences have, at some time, been well studied, and after various repetitions and practical development they have ceased to be completely consciously perceived and have become an automatic technique.

These intellectual habits have an important significance in chess, since without them we could not fully orientate ourselves in the multitudes of variations, nor could we separate the familiar from the unfamiliar or compare and analyze. During time trouble they assume a particularly significant role in that intuition and logical abstraction lose their efficacy. For the same reasons a player's imagination during time trouble does not generally have a creative character — the ability to look ahead consists of a comparatively narrow perspective, usually only two or three moves, and is based upon the calculation of concrete variations. Therefore the mechanisms of recreative imagination predominate, that is to say imagination grounded to a certain extent upon past knowledge. Consequently we must say that however paradoxical it may sound, the possession of stereotyped methods of play is, within certain limits, beneficial to success in time trouble, where there is no place for great discoveries but the main object is to manage to make moves which are not particularly bad ones.

Proceeding from even only a brief review of the features of logical thinking, intuition and imagination, we may state the premise that the general creative abilities of the player decrease during time trouble. It is not active searches for the new and original that determine the content of play during time trouble, but habits, stereotyped methods and a curtailed, concrete calculation of variations. Therefore, a definite contraction in the dynamics of chess activity is observed. As we know, time and space at the chess board are connected by the value of the pieces and squares and by the constant variety of situations on the board. The unity and interdependence of the concepts of time and space on the board are reflected in the dynamics of a player's thinking. During time trouble, with its reduction in the dynamics of thinking and attention, the objectivity and the perception of the relationship between space and time is violated.

Style during time trouble.

As we have already stated, time trouble is a clearly expressed mental state of a player and it arises because of certain of his characteristics. Therefore, it is very important to attempt to indicate the link between a player's style, his tendency towards time trouble and his success in time trouble. Obviously we may speak of such a link, in that a player's style reflects his character and temperament to a considerable degree.

During the fourth RSFSR Peoples' Spartakiad (Leningrad 1967), I conducted a survey of the players' opinions concerning this question. The 124 questionnaires filled in by the participants in the Spartakiad contain interesting data, which allow us to speak, with a certain amount of confidence, about the existence of a mutual relationship between style of play and tendency to time trouble. Indeed, if we remember the creativity of the most prominent representatives of the art of chess, Grandmasters of various creative dispositions, we will observe some regularity in their attitude towards time trouble. Consider Capablanca and Petrosian for example. There is much that is common to their styles—rich intuition, a high degree of tactical mastery and a tendency towards simplicity and clarity in their assessments. They are also linked by the fact that time trouble is a very rare occurrence in their games. Their infrequent cases of time trouble arose mainly when a solution to new and complex problems was demanded; for example Capablanca's games from the 1938 AVRO Tournament and Petrosian's matches against Botvinnik (1963) and Spassky (1966). As a rule they both played superbly in time trouble: obviously their excellent control over their playing habits and methods of technique came into their own.

The creativity of Botvinnik and Portisch represents a different pattern; they fall into time trouble more often. Time trouble arises for them mainly in situations that are complex and dynamic, full of combinative themes. A sudden digression during the course of events in the game also acts as a catalyst in producing time trouble. During time trouble they play less practically and make mistakes with comparatively greater frequency.

The origin of Korchnoy's time trouble is generally different. He is not so disturbed by storms of combinations; he thinks deeply when it is necessary to attack or in situations which do not lend themselves to concrete analysis but which require a very abstract assessment.

You will not find Spassky in time trouble very often, and if it does occur then it is not the position that is to blame but rather the psychological surprises offered by his opponent: because of his universal style Spassky plays excellently in the most varied of positions. His universal style gives him great advantages. It is important for him to understand the correct keys to his opponent's style and

to compel his opponent to play positions which are unpleasant for him. After all, for Spassky there are no "unpleasant" positions. If things do not go according to plan, however, and for some reason Spassky is forced to conduct the game in the area of his opponent's special field, then he becomes more unsure and sometimes gets into time trouble.

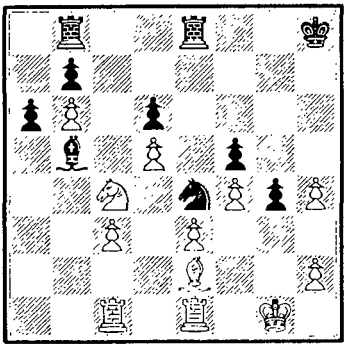
We may conclude that different players have different styles, and different causes lie behind their time troubles. It is hard to over-estimate the practical significance of a more detailed study of this subject, but for the moment it is a matter for future investigation.

Practical advice.

The psychological features of correct play during one's opponent's time trouble and the problem of a successful escape from one's own time trouble both have great practical importance. During the opponent's time trouble one should primarily make an objective assessment of the position, without over-estimating its merits because of the opponent's shortage of time. A common psychological mistake is the attempt to speed up one's own play as much as possible, in order to prevent the opponent thinking at "my expense". In this case an actual equalization of time takes place, but no account is made for the fact that the opponent is emotionally attuned to rapid play and understands the importance of each move. The player who has enough time and begins to hurry finds himself in an unfavourable position since, unlike his opponent, he has not had to summon his will power and his understanding of the complexities of his situation. Ultimately the logical sequence of his plans is often violated and he plays with barely a one or two move plan, he fails to check his analysis, his critical thinking is increasingly reduced and he subjects himself unnecessarily to the hazards of the battle.

Even after so many years I still cannot forget my game against Kholmov from the USSR Championship semi-finals in Leningrad 1955. My position was pleasant, Kholmov was immersed in deep thought and this resulted in bad time trouble. His time trouble excited me so much that I practically lost control over my thoughts. Although I had plenty of time to think I suddenly decided to compete with my opponent to see who could play faster, and the pieces started flashing on the board. Such haste led to no good. In the turmoil I made so many mistakes that the adjourned position was untenable.

Tal also employed this injudicious tactic in the 8th game of his match against Botvinnik, Moscow 1960. Tal had the better position and in his attempt to win quickly he under-estimated Botvinnik's ability to find the correct move in time. As a result Tal made an error and lost.



34...QR-B1?? "I made the last move instantaneously — as if seized by the time pressure rhythm of my opponent. I had formerly seen that I would win the exchange, but I had to think a little: then I would have come up with the absolutely correct idea: the other rook must go to QB1. Black, as in the game, would win the exchange, but maintain his QNP, after which White's position would immediately become hopeless. Here it is: the hypnotic power of "natural" moves! It is interesting to note that the winning move ... KR-QB1 was only later found at home that evening. **35 N-R5 B×B 36 R×B N×P** Black had examined this position. Now, if the attacked rook retreats, ... N-K7ch is decisive. It could be noticed from my opponent's expression that he had been rather surprised by the unexpected turn of events, but in spite of intense time pressure he successfully responded to the reversal of the conditions and immediately found the best continuation. **37 R×N!** White immediately gives up the exchange and wins an important tempo. **37 ... R×R 38 N×P** Now the QP is defenceless. Black felt that he had not played the best somewhere, but since there was not enough time, he did not evaluate the ensuing position correctly (it would be more accurate to say that he erroneously examined it) deciding that he still had chances to win. **38 ... R(K1)×P?** It was necessary to continue 38...R-QN1 39 N×P R-Q6 40 N×P R×QP 41 P-K4 R×N 42 P×R R×P, with a drawn endgame. 40 P-N7 R×QP 41 R-QB2 R×N 42 R-B8ch R-Q1 does not work for White. **39 R×R R×R 40 N×P R-Q6** Significantly stronger was 40 ... K-N1, but Black was under the impression that all was in order. Here the game was adjourned, and Botvinnik thought about his sealed move for about a half hour. At first I was extremely optimistic: during the game I was convinced that the variation 41 P-N7 R-QN6 42 N-B7ch K-R2! 43 N-Q8 P-R4 44 P-Q6 P-R5 45 P-Q7 P-R6 46 N-K6 P-R7 guaranteed a win for Black. Then it occurred to me that White could obtain a decisive transposition of moves continuing 41 N-B7ch! Now R2 is closed to the black king, since White simply plays 42 P-Q6, and the QP and QNP cannot

be held back. Therefore Black should continue 41 ... K-N2. After 42 P-N7 R-QN6 43 N-Q8 P-R4 44 P-Q6 P-R5 45 P-Q7 P-R6, Botvinnik wins a decisive tempo with 46 N-K6ch. On this, if the black king retreats to N1, White wins another tempo by promoting the pawns with check. There is one more possibility—to rush the king towards the QP, but in this case, the KRP has its say and in the course of the struggle I had not paid it any attention. For example: 43 ... K-B1 44 P-R5 K-K1 45 P-R6 K×N 46 P-R7, and the game is over. Upon returning home, my trainer and I only had to investigate the subtleties of this rather simple analysis. We began to play through the game and in the process of analysis we simultaneously discovered that Black could have forced a win on his 34th move. There was nothing to say and we didn't sleep a wink the whole night. It seemed as if my spirit had been hopelessly broken. Arriving for the resumption of the game I only had to be convinced of the fact that Botvinnik had sealed the correct move ... **41 N-B7ch** and I immediately **resigned."**

Panov wrote about a similar instance from the game Flohr-Novotelnov, Moscow 1950: "By the 20th move Novotelnov was already in time trouble and he had just five minutes left for the remaining twenty moves. Flohr had the better position and a large reserve of time, but in attempting to exploit his opponent's time trouble, he began to play with frantic speed himself. Intending to set a trap for his opponent, Flohr mistakenly sacrificed a bishop and could not win it back. As a result Flohr was beaten."

In the above examples the opponent's time trouble appeared as such an effective irritant that it led to over-excitement and the onset of an emotional conviction of early victory. The logical sequence of mental operations was interrupted, emotions were no longer consciously controlled and the player found himself in the throes of a temporary mental disturbance. I mention this point with good reason. Although this mistake is rare among Grandmasters, in the tournament practice of first category players it is fairly common. How many times one sees some ill-fated "sprinter" suddenly clutching his head in despair having just made a terrible blunder. Remember: when your opponent is short of time—do not hurry. Be particularly careful. Remember that your opponent has nothing to lose and to your hurried, ill-considered move he will be quicker to see the right reply. The opponent's time trouble can be exploited in a more sensible manner. Taking into account the tendency of the mental processes to solve apparently obvious, limited problems, and also the fact that attention is drawn to the static elements in the position, one should thoroughly analyze and check a complex five or six move variation, which, if possible, leads to changes in the position, and then one should play the intended series of moves very quickly. If the plan catches the opponent unawares one can expect him to make a mistake.

Of course it is necessary to allow for the opponent's individual style; thus, for instance, Bronstein, in his World Championship match against Botvinnik, (Moscow 1951), found the technique of embroiling his opponent in tactical complications to be successful. In one game in this match Bronstein was a rook down, but in time trouble he managed to complicate the position and achieved a draw. In turn, Botvinnik, in his matches with Bronstein and with Tal (Moscow 1961) successfully exploited the relatively indecisive play in time trouble of both players when in simple positions.

In situations where the opponent is in time trouble but has a big advantage, it does not pay to change the tempo of play and make moves with great speed. In this respect I fervently disagree with Panov's opinion expressed in his book "Attack". His assertion that this is the moment when one should try to complicate matters for the opponent is correct, but complicating the position should be the product of an objective, critical analysis of the position and not the result of an impulsive desire, and therefore the attempt to sharpen the position should be based upon the objective elements in the position as revealed by analysis. We assume that here too the most purposeful guide will be the method of battle which I have already proposed—thoroughly analyze a plan several moves deep and then make the moves rapidly.

In one of the Botvinnik-Reshevsky games from the World Championship Match Tournament 1948, Black played as Panov has advised. Having the inferior position when his opponent was in time trouble, Reshevsky played almost without thought. This brought him no good. Botvinnik confidently refuted Reshevsky's impulsive play and won the game.

The individual characteristics of a player's personality in reaction to objective difficulties appear quite clearly during his own time trouble. In order to overcome time trouble successfully much depends on the player's self-possession. It is necessary to force oneself to break away from extraneous thoughts and to concentrate fully on the game during time trouble. My observations permit me to assume that auto-suggestion, in the form of a verbal command to one's self, seems to be a useful method here. In thinking, it is necessary to be particularly aware of the fluctuations in attention which are to be observed in the calculation of variations. One should regulate the transfer of attention, so that one begins to calculate the next alternative only when a definite assessment of the previous variation has been made. If a well thought out plan has already been outlined then one should not deviate from this plan, but if there is no such plan, then as practice has shown it is better to stick to waiting tactics to try not to spoil the strategic structure of the position, and to decline making binding decisions which are too committal.

Any time trouble situation requires conscious, systematic self-control. This is achieved by the attempt to determine at each move at least the basic, direct

meaning of the opponent's reply by posing the mental questions "What is the threat? What do I dislike about my opponent's move?" If possible one should continually exercise control over one's own choice of moves.

Time trouble is a severe test of the player's psyche. Its origin is explained primarily by subjective causes—reduction in volitional qualities and inadequate critical thinking. The player can and should struggle against the onset of time trouble. Yet it is necessary to take account of the fact that time trouble is a psychological phenomenon and therefore a successful attempt to free oneself from time trouble is associated not only with training in chess technique alone, but chiefly with methods of training the character, the will and the thought processes.

Time trouble is a completely surmountable difficulty in the path of a player's development. Chess practice shows that with a conscious effort combined with a critical approach, time trouble may be overcome and its appearance forestalled. As Alekhine wrote in reference to time trouble as an excuse for poor play "...may be considered just as slight a justification as for instance the offender's claim that he was drunk when he committed the crime. An inability to handle the clock must be regarded in the case of an experienced master as a serious fault on a par with an oversight."

The study of time trouble, as we have already noted, is of great psychological significance for the investigation of states of mental frustration, that is to say, endurance as regards difficulties in life and one's reactions to those difficulties. As I. P. Pavlov has pointed out, life's difficulties often produce either over-excitement or depression. The objective problems of time trouble belong to the realm of life's surmountable difficulties. These problems may be overcome by training definite character traits—resilience, calmness, control of over-excitement or depression. A lack of these traits facilitates the appearance of time trouble, with or without the presence of the objective and subjective causes. There is a connection between the psychological state that leads to time trouble and other situations in life where there is a systematic refusal to make decisions, such as "storming"* in production, or the student's refusal to revise for an examination until the final night, etc.

A knowledge of the peculiarities of time trouble in chess may have some significance for the formulation of concrete tasks in character training. Not in vain is it said that the correct diagnosis of a character defect is half the battle in overcoming it.

*storming—the pouring in of more and more workers to overcome difficulties in production.

CHAPTER 7

Tournament Tactics

Arguments about the nature of chess are going on even today. What is it? Is it a sport, a science or an art? We are not going to enter polemics just now, but it is important to note that the creative content of chess is closely bound up with the result: a point, half a point or a zero in the tournament table. One cannot escape from this fact! For this reason, in any contest, each "interested" party usually has a goal. The challenger dreams of getting twelve and a half points and becoming champion whereas the first category player is aiming at getting a Candidate Master norm.

Every chess player, whatever his strength, has his sporting plans and hopes. These plans have quite a concrete and definite relation to each game. Games, usually towards the finish of a tournament in which one has to get, say, two points out of two in order to become a master, are of particular significance. Such an attitude has created the notions of "playing for a draw" and "playing for a win." I must admit that I nearly wrote down "etc.", but remembering in time that "etc" could only mean a loss I put a full stop, though without too much confidence. The reader will understand my anxiety when he reads the next few pages. Quite often the brave campaign to "play for a win at all costs" turns in reality into playing for a loss. I shall explain these notions in detail.

I want a draw!

Before the last round of the 12th USSR Championship (Moscow 1940) the situation was tense. Bondarevsky was leading, one point ahead of Lilienthal and Smyslov. Lilienthal was to play Bondarevsky in the last round. Let us see how this exciting duel developed.

Lilienthal's commentary on the game is interesting. He wrote: "As is well known, this game, played in the nineteenth and last round, was to decide the first place. Bondarevsky was a point ahead of me and in order to catch up I had to win at all costs. Knowing that playing desperately to win more often than not leads to defeat, I decided on a complicated, closed, manoeuvring position, avoiding the tactical positions which favour Bondarevsky's sharply combinative style."

We will add to Lilienthal's words that his opponent had a seemingly easier task—to achieve a draw. Bondarevsky planned to achieve the desired result bloodlessly, and so his choice of the passive Burn Variation of the French Defence is quite understandable. This type of struggle did not accord with Bondarevsky's style of play in those years and Lilienthal's fears of tactical complications proved to be groundless. Bondarevsky chose to play this game in exactly the spirit for which his opponent was so eager. How successful the preparation was on the two sides is shown by the game.

Lilienthal-Bondarevsky French Defence

1 P-K4 P-K3 2 P-Q4 P-Q4 3 N-QB3 P×P

Lilienthal remarked: "It was psychologically quite correct to choose this exchanging variation against an opponent who is obliged to play aggressively." I disagree with this opinion. Lilienthal himself said earlier that his opponent's forte was combinative play. We can see, of course, Bondarevsky's aim. He was obviously very excited, being afraid of parting with first place. He was, however, mistaken. On the one hand a few exchanges do not guarantee a draw, and on the other hand, he chose a weapon which was obviously from the wrong arsenal: he started the game in a defensive style which was uncharacteristic, for he was considered to be a most dangerous attacking player. From the very first moves Bondarevsky voluntarily gave up a number of psychological advantages.

4 N×P N-Q2 5 N-KB3 B-K2 6 B-Q3 N(N1)-B3 7 N×Nch B×N 8 O-O P-B4 9 P-QB3 P×P 10 P×P O-O

10...N-N3! would have been a more precise move. The move made by Bondarevsky was a slight, but psychologically quite understandable mistake. It was simply not his kind of position.

11 Q-B2 P-KN3 12 B-KB4 N-N3 13 B-B7 Q-K2 14 B-K4!

Perhaps Bondarevsky expected his opponent to start a desperate attack and so did not care too much about small mistakes in this position. His opponent, however, proved to be an excellent psychologist. Lilienthal wrote: "I went in for simplifications quite readily, being fairly happy with a somewhat better endgame." A sober and justified outlook! White did not have any grounds for a sharp attack, because Black's position is strong and devoid of real weaknesses.

14...N-Q4 15 B×N P×B 16 B-K5!

A deep thought! White is planning an ending in which his knight is going to be better than his opponent's bishop. Besides, Black's Q-side pawns are weak.

16...B-B4 17 B×B Q×B 18 Q-N3 B-K5 19 N-K5 Q-N3 20 Q×Q P×Q

Now White's advantage is becoming rather obvious, and Black's worries grow with every move. Bondarevsky was probably beginning to regret the dull method of play he had chosen.

21 R(B1)-B1 R(B1)-B1 22 P-QR3 B-B4 23 P-KN4 B-K3 24 P-R3 P-B3 25 N-Q3 P-KN4 26 P-B3 K-B2 27 K-B2 K-K2 28 K-K3 K-Q3?

A decisive mistake. He should have played 28...P-R4. Nevertheless, to find the reason for Black's defeat just in this move would be incorrect. There were far too many psychological and positional concessions made earlier.

29 R×R R×R 30 P-KR4 P-R3 31 P×P RP×P 32 R-R1 R-K1 33 K-Q2 B-Q2 34 R-R6 R-KB1 35 N-K1 K-B2 36 N-B2 R-B2 37 N-K3 B-K3 38 K-B3 K-Q3 39 K-N4 B-Q2 40 N-B5ch K-B2 41 P-R4 B-K3 42 N-N3 B-Q2 43 N-R5 P-B4 44 N-B6 P×P 45 N×QPch K-N1 46 P×P B×NP 47 N×P R-B7 48 P-N3 B-Q8 49 P-Q5 K-B2 50 P-R5 R-Q7 51 R-R7ch K-N1 52 P-Q6 R-Q5ch 53 K-B5 R-KR5 54 P-Q7 K-B2 55 P-Q8=Qch K×Q 56 R-Q7ch Resigns.

A wonderful game! It seems that a draw does not come by itself. One has to fight hard for it.

And so Bondarevsky was defeated. What are the main reasons for his failure? We will glance over the game again. The opening: Bondarevsky consciously chose a passive variation giving his opponent a free hand in getting the initiative. Black's game was based on the motto: "the fewer enemies the better." And so, in spite of his gradually worsening position, he exchanged one piece after another. This allowed Lilienthal to organize a siege with few but actively placed forces. Black's attempt to hide behind his stronghold did not help. It was not the quantity of defensive forces which determined the outcome of the battle, but the chain of thought consisting of the refrain: "Do not touch me and I will not touch you."

Tarrasch once remarked: "The threat is stronger than its execution." This was a deep observation. In thinking only of safety the chess player involuntarily exaggerates his opponent's chances and deliberately curbs his own aggressive tendencies, thereby paralyzing and impoverishing his own play. Fear and uncertainty accompany moods of this kind. In the meantime the opponent, greatly encouraged, makes cheeky attacks which can scarcely by beaten off without making a sortie from the stronghold. The encircling tightens relentlessly; the besieged army regrets its timidity, but it is too late. Although it still resists, the enemy's heavy artillery is firing at the last lines of defence. And before long the loser is sadly signing the score sheet, resigning the game. The desired draw did not come!

It is difficult to come ashore when one is left at the mercy of the waves, or more precisely, at the mercy of one's opponent. One has to fight for a draw, one has to conquer it. And it is easier in a full-scale battle, because passivity and fear will not drag you down at the moment when the position demands the taking of dangerous, simetimes risky, but necessary decisions.

I would not like to be blamed for initiating the ways of pre-revolutionary

business-men who, to get a certain price for their goods, started off by asking double that price in order to be able to bargain. Still, a psychological requirement for fighting for a draw is to plan for more than the mere half point. Do not think of a draw when you need... only a draw! If you resign yourself and search only for shelter to hide from the storm then, truly, your situation is no different from that of an ostrich, which thinks it can avert danger by burying its head and shutting its eyes. Do not delude yourself: the danger will not pass you by, and you will have to face it with decision and resolution for the fight.

Instructive examples of correct psychological preconditioning are furnished by Botvinnik's games. During his matches against Bronstein (1951) and Smyslov (1954) the score before the last round was 11½: 11½. A draw would secure the World Championship title for Botvinnik.

The decisive game began. Bronstein with a smile of cunning on his face advanced his QP: 1 P-Q4. The hall was silent. People made guesses as to what opening Botvinnik would play? Somebody's voice predicted "It will be the Orthodox Defence. True, Black has to defend for a long time, but the position is stable. Botvinnik needs a stable position today."

But no! The first moves already refute the prognosis. We see the sharp and tense variation known to theory as the "Botvinnik Variation". The champion bravely challenges his opponent, as if saying: "Although I would like a draw I am not going to beg for it myself!"

I would like to make clear to the reader that I do not wish to deprecate the Orthodox Defence, which was used by Lasker and Capablanca. The point is that Botvinnik hardly ever used to play this system of development. The champion chose the safest, most thoroughly analyzed and, perhaps, the most aggressive continuation in his repertoire. One can only guess what the feelings of his opponent were, but the movements of the white pieces suggest that he was assailed by doubt. One can see a sort of resignation in the action of the White army. Perhaps he was recalling the succesful course of the battle in the preceeding twenty-third game of the match, or perhaps his balance was upset by Black's coolly executed, precise and relentless attack. The denouement was not long in coming: after gaining a won position The Champion offered a draw "just in case". It was accepted.

The game against Smyslov developed on similar lines. This time the Champion had White so it was easier for him to make his opponent go in for a defensive game.

During my own career there have been several occasions when I needed a draw either to fulfil some qualifying norm or to get through a qualifying competion. In 1949, being still a young and inexperienced lad, I played in the semi-finals of the USSR Championship in Leningrad. To everybody's great surprise (and above all my own) I had a real chance of fulfilling the master norm. It was

important for me not to lose to Tarasov. I prepared for the game in my "own way"—I conscientiously looked through the text-books for "cast-iron" opening systems and with the resolve only to defend I went off to play. Tarasov quickly saw through my simple-minded plan, took some risks in the quite justified supposition that I was afraid of complications and deservedly won the game.

This taught me a lesson. In my game against Gheorghiu at Sochi in 1964, which I shall mention again later, I did not think only of defence. Although a draw would secure me first place and the Grandmaster norm, in view of my bitter experience in the past I prepared a good range of openings. "Do not think about a draw", I kept on saying to myself throughout the heat of the battle. Gheorghiu did not expect such an aggressive, even if positionally justified, style of play. When the game finished in victory for me he remarked: "I did not think one could play like that when going for the first place." "Not only 'can' but must",— I mentally answered the Roumanian.

I have to win!

Stories of tournament and match battles are varied. A situation often occurs in which no retreat is possible—victory is essential. It is not enough, though, to want victory: one has to know how to win. The reader may think that perhaps theoretical and technical preparation will solve the problem. I do not dispute the role of knowledge: I merely point out that opponents of about equal strength and experience conduct their decisive games with strengths which are far from equal. Chess lovers will remember how Keres, by defeating Taimanov on the finishing line in the 19th USSR Championship, and Barcza in the International Tournament at Budapest in 1952, came first in those tournaments. Spassky's mishaps in games against Tal and Stein in the finishing rounds of the 25th and 28th Championships will be long remembered.

Let us not go into detail counting how many microns stronger Keres was than Spassky at the time or vice versa; something else is more important: one Grandmaster showed the ability to fight and win at the critical moment and the other did not.

But what is this capacity to win? In trying to isolate it we cannot confine ourselves to erudition and the perception of the mysteries of strategy. No less important is the psychological tuning of the character, which mobilizes the will and feelings of the chess player for his momentous trial.

The emotions characteristic of a player who is desperate for a win differ somewhat from those of a player for whom a draw is sufficient, for in one case there is only an abyss behind, whereas in the other there is an emergency exit.

For many players, tuning up to "play for a win" is accompanied by excessive excitement. This disorganizes the activity to the nervous system and disturbs the clarity of thought and concentration. Thought is thrown into chaos, the hands

shake and the heart beats with anxiety. The feelings escape from the control of consciousness and add their tithe to the muddle.

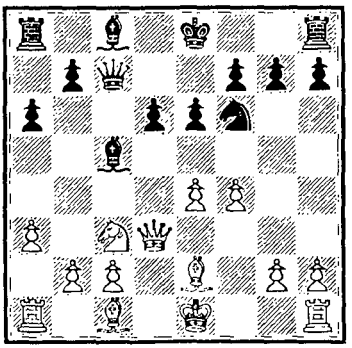
Excessive excitement is manifested on the chess board in hazardous play of the "va banque" style, when the attack is carried out with complete recklessness. Activity of such a nature is usually of no great value. The attack, which usually does not have sufficient positional foundation, quickly suffocates, and the "insidious" opponent destroys the over-extended enemy army without trouble.

I have already given the example of my disaster against Lisitsin in the chapter on attention (page 60). The lesson of this game was so valuable that I should like to remind the reader of it, and to explain, in more detail, my thoughts at the time.

Lisitsin-Krogius Dutch Defence

1 N-KB3 P-KB4 2 P-Q3 N-KB3 2...P-Q3 would have been better. **3 P-K4 P×P 4 P×P N×P 5 B-Q3 N-KB3** 5...P-Q4 would have been more stubborn. **6 N-N5 P-KN3 7 P-KR4 P-Q3 8 P-R5 P×P 9 B×P N×B 10 Q×RPch K-Q2 11 N-B7 N-N4 and Black Resigns.**

I recall how, during the game, I could not concentrate. Thoughts of victory distracted me from calculating the variations and prevented me from engrossing myself in the game. "I wish it was over"—a strange inner voice was sounding, inducing me to let fly with impulsive moves. After 5 B-Q3 I could have chosen the variation: 5...P-Q4 6 B×N P×B 7 Q×Qch K×Q 8 N-N5 K-K1 9 N×KP, but I rejected this possibility quickly because it led to an endgame with some advantage to Lisitsin. Exchanges will make my position unpromising, I thought; perhaps it is better to keep on as many pieces as possible so that I'll have a chance of confusing my opponent. Instead of putting up resistance in a worse, but tolerable position, I bravely stepped into the lion's mouth. This lighthearted "perhaps I'll manage to mix him up" influenced my reaction to the little-known move 2 P-Q3 and to the further course of the game. A lamentable, but predictable outcome! I witnessed a similar occurrence fifteen years later in the game Nezhmedtinov-Damjanovic from the ninth round in the 1964 International Tournament in Sochi. Nezhmedtinov had a chance of getting the Grandmaster norm, so it was very important for him to win the game. From the first moves Nezhmedtinov played sharply in an attempt to win. After Black's tenth move the diagrammed position arose.



11 B-Q2

Nezhmedtinov is preparing to castle long. But why not 11 B-K3.? This has the same idea but in a number of variations it creates a threat to the pawn on Q3. After this move Black's position in the centre would remain passive and he could not even have dreamed of counterplay by means of ...P-Q4. The master from Kazan, however, thinking that every exchange would reduce (!?) his winning chances, puts his bishop on an awkward square. It is interesting that immediately after the game Nezhmedtinov pointed out that 11 B-K3 was stronger. That is how excitement influences the game even of such experienced players.

11...B-Q2 12 P-KN4

Ever onward!

12...P-KR4 13 P×P O-O-O 14 O-O-O N×RP 15 P-N4

White is continuing the game with the same bravado, thereby creating new weaknesses in his own camp. It was worth considering 15 P-B5 in order to organize play against the square K3 and at the same time control an important central point more effectively. For example, 15...B-B3 16 P×P P×P 17 B-N4 or 15...N-B3 16 B-N5 B-B3 17 P×P P×P 18 P-KR4.

15...B-N3 16 B-K3

Remember White's eleventh move!

16...B-B3 17 P-QR4? P-Q4 18 B×B Q×B 19 B×N P×P! 20 Q-B4

If 20 Q-K2, then 20...Q×P and in consequence of the pseudo-attacking advance of White's pawns on the QR and QN files on the previous moves it is Black who gets a decisive attack going.

20...R×B 21 P-N5 R×Rch 22 R×R Q-B4 23 Q-N3

After 23 Q×Q R×Q 24 P×B R×N 25 P×Pch K×P the ending is won for Black.

23...B-Q4 24 Q-N2 R×P 25 P-R5

Onward again, but for what?

25...P×P 26 N×NP P-K6 27 N-B3 P-K7 28 Resigns.

An instructive example of what happens when one plays to win without the backing of the objective pre-requisites—positional factors. The attack was conducted for the sake of attack only. It is instructive to see how White's "attacking" moves helped Black: 11 B-Q2, 12 P-KN4, 15 P-QN4, 17 P-QR4, 21 P-N5. Over-excitement evoked ill-founded, impulsive play in a game which was important for Nezhmedtinov.

It would be easy to give plenty more examples.

Each time a sufferer realizes with surprise that playing for a win generally results in a loss, one remembers Pavlov's words: "Our lives point to the fact that at certain moments we must indulge in some activity and at others we must refrain from it."

One has to find one's own way of regulating one's feelings and controlling one's excitement. This is the golden mean, which Pavlov called the balance of preparedness for battle." I would like to remind chess players, especially inexperienced ones, that from time to time in chess one must hasten slowly.

One often hears: "I have to win, so I shall play the King's Gambit *a la* Spassky." Adherents of these tactics sometimes copy the surface of the substantive and deeply thought out style of Tal, Spassky, Stein, Tolush and other connoisseurs of sharp play. They do not understand that the King's Gambit in Spassky's hands is not just half childish amusement, but a thoroughly studied opening system. For that reason, rejecting one's own usual systems and playing something which one does not understand, but which is "sharp," does not bring anything but disappointment. The adventurer who thinks only of courage forgets that it is commendable only when it is in place. Cervantes said: "Courage which is not based on caution is called foolhardiness, and the deeds of a foolhardy man are attributed to luck rather than to courage."

I do not wish to be misunderstood. I approve of courage, but courage along with objectivity. One must not allow one's ambition to win to turn chess into a game of chance: one must put into the game all one's strength and heart, but first of all one's head.

I would like to say a few words about courage, fear and the sense of danger in chess. Cautiousness is an essential quality in the correct assessment of a position and in an objective approach to chess. Disregard of this principle is manifested in two ways.

The first way confidence waxes into over-confidence. The chess player thinks his own variations infallible and his own assessment of the position impeccable, and does not attach much importance to his opponent's intentions. He calculates the variations mainly from his side and for this reason overlooks his opponent's answers and under-estimates the hidden resources of his opponent's position. This failing is quite common among chess players and even the chess Olympus has not escaped it.

The famous Soviet Grandmaster Yefim Geller blunders quite often. During the 27th USSR Championship, in a game against the author of this book, he was so carried away with his own plans that he completely forgot about the insecure pawn defences of his king. This was the main factor in his lack of preparedness for my counter-attack, and led to a quick success for me. My opponent did not even spare a glance for his own king: his thoughts were too firmly occupied with the development of the attack on the other side of the board. Playing against Garcia in Havana 1964 Geller missed a cunning but comparatively simple resource, in spite of the fact that in this game too he had the initiative. This list would be easy to continue. Is it perhaps this "little" failing which prevents Geller from becoming first among the best?

Over-estimating one's chances is especially common in games against outsiders who are known to be relatively weak, and also in favourable or won positions. How many beautiful positions have been lost in such a way! The old saying in chess is often forgotten: the game is not won till the opponent has resigned. Other offenders against the canon of caution do not sin through over-confidence—quite the reverse. They "try to be more Catholic than the Pope himself". Behind each enemy pawn they see some mystical strength, the opponent's pieces become fabulous giants and their own plans harmless. This state of uncertainty often increases when the situation on the board changes, when a calm position enters a spell of complications or when, in carrying out a plan, they run into unexpected difficulties. A sharp turn of events on the board gives rise to a whole range of adverse emotions. Fears are everywhere even where there is nothing, exactly as in Pushkin:

Vanya is paralysed: he cannot move
Oh God!—The poor fellow thinks,—
It is the red-jawed jabberwock
Who feeds on bones!
Woe is me! I am not of the strongest!
This beast will eat me up.

In reality the jabberwock turns out to be a dog peacefully chewing some bones. Truly, fear has big eyes.

It is precisely at such moments that a chess player needs self-control most acutely. After all, it *is* possible to subdue overwhelming feeling and to persuade oneself that the most important thing at a given moment is calmness. It is beneficial to cheer oneself up, to remind oneself that there is still some powder in the chamber and try to divert oneself from the game for a brief interlude—perhaps looking at the demonstration board or at the neighbouring

table. The first wave of feeling will pass and one will find it easier to appeal to reason.

Because of all this I advocate the development of vigilance towards the opponent's intentions and of a sense of danger as conducive to objectivity of thought. In this respect studying the play of Capablanca, Rubinstein, Botvinnik and Petrosian is a great help.

An impending danger is, of course, always a trial and sometimes a testing ordeal of a man's resolution. In chess, as in life, one cannot just travel smoothly—thorns are inevitable. It is through them that a player's character is tempered. One cannot win without risk, so a good word must be said for it.

But we have sidetracked somewhat. Let us see how chess players who can control themselves very well at critical moments play for a win.

The game Averbakh-Keres was played in the last round of the 18th USSR Championship. The previous day Keres had lost to Petrosian after having a great advantage and now Tolush and Aronin had caught up with him. As we can see, Keres had more than enough grounds to feel disappointed. At such a juncture he sat down to play Averbakh.

Averbakh-Keres Four Knights Game

1 P-K4 P-K4 2 N-KB3 N-KB3 3 N-B3

The first blow, White broaches the Four Knights Game renowned for its peacefulness. Here one is, obliged to win, while the simplicity of the game makes the task seem unreal.

3...N-B3

Subsequently Keres worked out the system with 3...P-KN3.

4 B-N5 B-N5 5 O-O O-O 6 P-Q3 P-Q3 7 N-K2 N-K2

Black obviously considers this the strongest and calmly maintains the symmetry. It takes real courage to show such restraint rather than jump into a full scale attack. Black has no grounds for attack so far.

8 P-B3 B-R4 9 N-N3 P-B3 10 B-R4 N-N3 11 P-Q4 B-K3 12 B-B2 R-K1 13 R-K1 B-KN5 14 N-B5?

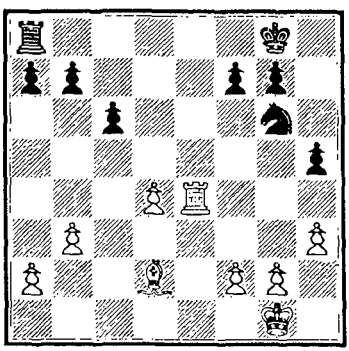
A mistake which hands the initiative over to Black; he should have sacrificed a pawn by meams of 14 P-KR3 B×N 15 Q×B P×P 16 P-QN4 B-N3 17 B-N5, and White has good attacking chances. Averbakh, however, could not jump the psychological hurdle of resolving on a sharper turn of events. The opening which he chose and the passive, "neutral" moves 12 B-B2 (12 B-N3 was better), 13 R-K1 (whereas 13 B-K3 was better) bear witness to the fact that Averbakh wanted to wait, to stand still in the hope that his opponent would be provoked into some hazardous expedition. These positional concessions, based on the mistaken assumption that Black would lose his balance and rush into an adventurous

attack, allowed Keres to gain the desired initiative by very simple methods.

14...P-Q4! 15 P-KR3 B×N(B6) 16 Q×B N×P 17 B×N P×P 18 N×QP B-N3!

Some prospects of gaining a serious advantage have appeared but Keres is quite rightly satisfied with a little for the time being. He wrote: "Black is satisfied with a small but distinct advantage in the endgame, creating an isolated pawn for his opponent on Q4 while he still has a black-squared bishop. An attempt to make use of the constricted position of the white bishop would not have succeeded; for example: 18...Q-R5 19 Q-B5 R×B 20 B-N5 R×Rch 21 R×R Q-R4 22 P-KN4 and White wins!"

19 B-Q2 P×B 20 R×P R×R 21 Q×R B×N 22 P×B Q-K2 23 Q-N4 Q-Q3 24 R-K1? Q-Q4 25 P-QN3 P-KR4 26 Q-K4 Q×Q 27 R×Q



A typical position with a "bad" bishop for White giving Keres definite winning chances. After a series of inaccuracies in time trouble Black realized his advantage:

27...P-B3 28 K-B1 K-B2 29 B-R5 P-N3 30 B-B3 R-Q1 31 B-N2 R-Q3 32 P-KN4 P×P 33 P×P R-K3 34 P-B3 N-K2 35 B-B1 N-Q4 36 B-Q2 R-Q3 37 K-K2 R-Q1 38 K-B2 N-B2 39 P-R4 N-K3 40 B-K3 R-Q4 41 K-N3 K-K2 42 P-N5? P-KB4 43 R-K5 K-Q3 44 R×Rch K×R 45 P-N6 P-R4 46 K-R4 N×P 47 B-R6 N-K3 48 B-K3 P-B4 49 K-R5 K-K4 50 B-B1 N-Q5 51 B-R6 K-B3 52 B-N5ch K-K3 53 B-R6? P×B 54 K×P N-B3 and Black wins.

We are not interested in a detailed analysis of this endgame at the moment. Something else is more important: what were the main reasons for Keres's success? The answer is: the realism and objectivity of his play. The Estonian Grandmaster showed that one should not be afraid of an equal position, because it is easier to win an equal position than an inferior one. The main thing is to fight

to the end and set one's opponent ever more problems. Of course, had Averbakh not made a few mistakes he would not have lost, but his mistakes were not fortuitous. Averbakh seems to have counted on his opponent's not bearing the strain and making an impatient move, so that he did not bother to manoeuvre his pieces accurately. Common sense and *sang froid* are evidently the best ingredients in playing for a win.

The goal, however, is not always attained so smoothly as in the above example. Among the games of Tal and Stein there are examples of games played for a win in which nothing vaguely resembling the normal notion of common sense is to be found.

Does this circumstance not lead us to think that there is an irreconcilable contradiction in our attempt to give a single psychological characterization of playing for a win which is applicable to players of different styles? I do not think so. Before we embark on the search for "common sense" in the games of Tal and Stein, let us discuss the notion of "the style of a chess player."

We are confident that the general principles of chess strategy are compulsory for every master. However, the method of applying these principles in reality depends on the individual chess player. The choice of one method or another, lively or austere, determines the style of a player. The variety of chess styles depends on the diversity of human characters, all the more so because chess gives wide scope to individual creativity. In most positions there is more than one best move and a number of roughly equal continuations, one of which will satisfy any taste. This is why the art of chess embraces such stylistically different players as Petrosian, Smyslov, Tal, Stein, Larsen and Portisch; but the basis—the strategic laws of chess—is the same for everybody. Even the adherents of the combinative tendency do not wish to repeal the strategic principles; believe me, although they play in a completely different way from the classicists, playing to win for them is not a question of blind faith in a lucky lottery ticket, but a struggle involving just the same common sense in assessing the position, even if in a somewhat different form.

In this connection it is interesting to read Tal's thoughts on the controversial opening he played on the occasion of his match against Botvinnik in 1960: **1 P-K4 P-QB3 2 N-QB3 P-Q4 3 N-B3 B-N5 4 P-KR3 B×N 5 P×B!?**

"All the annotators unanimously deplored this move. There is no doubt that if this move were played by a player who was inexperienced in opening subtleties and did not have much knowledge of theory, then he should be referred to a textbook in which he would find that doubling pawns is not advantageous, one should not weaken one's K-side in the opening, and so on. In this particular case, I think that the move 5 P×P has, in addition to psychological recommendations, purely positional justifications: firstly, it strengthens White's centre; secondly, it opens up the KN-file along which pressure can be created in

the future."

I shall sum up. How should one play for a win? Do not look for a universal answer—I simply advise you to play according to your usual manner, just as usual or even a bit better than usual! Do not blindly copy the experience of other players. Try to mobilize your will and clear-headedness, but remain yourself.

On defeats.

I have mentioned victories and draws, but now it is time to remember the third result in chess—defeat. There is no chess player who has not experienced that sad feeling of writing down on the scoresheet the word "resigned" and seeing a zero appear in the tournament table. Such a fate has not by-passed even the most celebrated players. Even the "invincible" Capablanca, who had a spell of some years when he did not lose a game, was one day ruthlessly brought down to earth and had to stop deluding himself about a lossless existence.

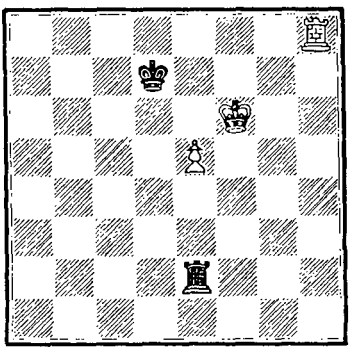
"The life of a chess master is the life of a fighter, a life full of ups and downs"—wrote Emmanuel Lasker. If this is so, if defeats are inevitable, one must try to determine a correct attitude to them and try to limit their number. Let us look at the place of losses in chess practice. Needless to say, nobody likes losing. Some players try to forget their unpleasant experience and excuse their failure by fortuitous circumstances. "Everything was going fine, but then I blundered"—the player consoles himself, forgetting that the occurence which appears to him as accidental is a consequence of his chess and psychological failings. One must blame not only one's opponent for a defeat, but oneself as well. One of the chief requirements for perfecting one's chess is a critical analysis of one's own defeats.

"Most players . . .," Capablanca remarked, "do not like losing, and consider defeat as something shameful. This is a wrong attitude. Those who wish to perfect themselves must regard their losses as lessons and learn from them what sort of things to avoid in future."

In order for a defeat to become a useful lesson for the future, one must study it very thoroughly. In my career as a trainer I have often come across unwillingness to go back to the analysis of lost games. The same player will gladly show off his successes to rid himself of unwelcome memories. It is essential to correct such an attitude in a radical manner.

In my own chess career a detailed written annotation of my losses has played a significant role. In these annotations I tried to give a concrete analysis of the critical positions, making a note of the psychological reasons which influenced some of my decisions, and I also compared my notes with material on openings and other text-books if there was any resemblance. Systematic work in this direction brought me success more than once. Having seen my game against

Lisitsin (1949), the Kuibyshev master Shaposhnikov decided to play the same gambit variation of the Dutch Defence against me in 1951. I did not, however, repeat my mistake; I had thoroughly analyzed my loss to Lisitsin and I was well equipped against Shaposhnikov: I played a new system and gained an advantage from the opening. These efforts were not only of benefit for the opening. I recall my game against Tal from the semi-finals of the 24th USSR Championship (Tbilisi 1956), when I lost after failing to make up my mind at one stage of the game to go in for the following ending with White to move.



I thought that this position was hopeless. Subsequent analysis convinced me that there was a simple drawing line which consisted in keeping the black king a knight's move away from the enemy king: 1 R-R7ch K-K1 2 K-K6 K-Q1 3 R-R8ch K-B2 4 K-B6 K-Q2, and so on. Eight years later at a tournament in Sochi a similar position occurred in my game against Spassky. My previous experience allowed me to steer for the drawn position well in advance.

A good example of a self-critical attitude towards his own play (and particularly his losses) is furnished by Tal. His notes on his games are frank and deep. One can see how a great chess player thinks, believes, doubts and sometimes errs. Here is a fragment of the game Tal-Larsen from the fourth game of the match, with comments by Tal:

1 P-K4 N-KB3 2 P-K5 N-Q4 3 P-Q4 P-Q3 4 N-KB3 P×P 5 N×P N-Q2 6 B-B4 P-K3 7 Q-N4 P-KR4 8 Q-K2 N×N 9 P×N B-Q2 10 O-O B-B3 11 R-Q1 Q-K2 12 N-B3

"A very commital move. White accepts the spoiling of his pawn formation, counting on exploiting his advantage in development. To be quite frank I over-estimated my chances considerably after the exchange on B3, thinking that the only acceptable variation for Black was 12...O-O-O 13 N-K4 P-B3 14 B-QN3! in which White has a tangible advantage."

12...N×N 13 P×N P-KN3 14 P-QR4 P-R3 15 R-N1?

"Quite a ridiculous 'attacking' continuation. For the sake of the cheap trap 15...B-N2 16 B×RP P×B 17 Q×P. White slows down the speed of his attack considerably. Black's task would have been more difficult after the positional move 15 R-Q4."

From Tal one can learn fearlessness not only in the face of one's opponent, but towards oneself as well. He criticizes his own mistakes most severely. I think that this particular trait in his character has been of great service to Tal in the attainment of his triumphs.

Let us return to the tournament hall. Today as usual there are some losers. We are interested to know how they will survive their failure and in what mood they will start their game tomorrow.

We have already said that nobody is indifferent to losses. A player's reaction to defeat is a good indicator of his stability of character.

The blows of chess fate are cruel! I remember that during the 1957 RSFSR Championship, Bastrikov had only to get one point out of four to get the Master title. The fans from the Urals, who were sure of their fellow-countryman's success, sent abundant congratulations. Bastrikov himself felt that the title was in his pocket. Alas, how many disappointments awaited him! The first game he lost terribly. In the second, against Shamkovich, he was so excited that he mixed up the order of moves in a forced manoeuvre and ... zero again! The last two rounds did not bring the desired point either. The usually confident and lively player was quiet and downcast. He was mortified. To an outsider he looked like somebody awaiting death. Later he told me: "The first zero upset me, but after the second I was 'finished'— I wanted to give up and go home and never look at a chess-board again."

After the eleventh round of the 27th USSR Championship I was among the leaders. In the twelveth round my opponent was Smyslov. Concern about my position among the leading group resulted in timid play. During the game I was more occupied with the thought that there were only four points more to go to the Grandmaster norm, than about my opponent's moves. This mood did not go unpunished. With our combined efforts Smyslov and I proved the hopelessness of my position. This defeat completely upset me. Soon I lost to Gufeld and Korchnoy. In my last round game I kept on thinking: "In the game against Gufeld I should not have retreated my knight to K1 and against Smyslov I should have carried out the plan P-QB3 and P-Q4," or something of the sort. The memory of my mistakes followed me relentlessly and prevented me from concentrating on later games. For that reason the other games (for example, I had an excellent position against Korchnoy) deteriorated quickly. I then understood very well how difficult it was to fight one's own excitement. I just

could not pull myself together during the tournament.

The problem of fighting one's own shadow—the complex of adverse emotions—is central for many players, even some of the most experienced ones.

Critics often refer to Alekhine's example of self-control. It is said that the World Champion used to play with double the energy after a defeat. A very instructive example, of course, but how can one make oneself follow it? This is no simple task: it depends on a person's character and will.

As in similar situations in life it is essential to get rid of the heavy burden of the past, to try and forget failure and divert oneself from miserable thoughts. Self-torture will obviously not help.

This is easier said than done, however. Remember how Khodja Nasreddin made cunning use of this kind of difficulty when he said he would try to cure a money-lender in return for a large fee. He told the relatives of the rich man that the cure would only work if none of them thought about a white monkey! Naturally, as soon as Khodja started the cure they all felt embarrassed. Khodja Nasreddin's request had the opposite effect—nobody could stop thinking of a white monkey. Trying to forget about defeats is rather similar. Once a well-known chess player when ordering his lunch said to the waiter in a restaurant: "For the first course, please, bishop to QN5." The astonished waiter moved away out of the danger zone, but the other participants in the tournament understood him perfectly: the bishop manoeuvre had caused the master's defeat in the game that had just ended.

The answer to the depression which follows a defeat lies in self-control and, if you like, in auto-suggestion. Yes, precisely, auto-suggestion. Do not try to recall the ancient wise men and the mysterious magic of the Indian fakirs. It is all much simpler. These days hypnosis has become one of the main methods of psychotherapy and education. It is a good thing when a trainer can cheer up the "sufferer" without too much moralizing, bring a light-hearted touch to the subject of his misfortune and then direct his thoughts elsewhere. Often, though, there is no trainer, and whether you want to or not you have to face your emotions on your own. It is here that auto-suggestion can help. Important research on the role of auto-suggestion has been done by Bekhterev. He pointed out the necessity of struggling against adverse emotions by means of self-orders to forget them and at the same time to try to counter-balance them by thinking about something happy and pleasant; in other words, try to convince yourself that there is something to look forward to. The orders of auto-suggestion should be made in "the first person, affirmative form and in the present, not the future, tense," Bekhterev wrote.

One should neither over nor under-estimate the method of auto-suggestion. Its success depends on the individual. The process of changing one's mood and regulating one's feeling is different for every chess player. The rate at which he

can effect such a change also varies.

Some players, like Alekhine, are ready to take revenge the next day, whereas others take a long time to recover. Tal's reflections on the fourth game of his match against Portisch (1965) are interesting: "Koblentz had had the opportunity to get to know my character very well, so he knew that the fourth game would not be a draw. As a rule I have more fighting spirit after a defeat. He advised me quite correctly, not to lose my head, as there were after all still seven games to go, but it did not help and from the opening moves White showed his ambition in this game very clearly."

An analysis of the game will tell us how to understand the expression: "I have more fighting spirit after a defeat". There were no traces of adventurism in this particular game by Tal. He played agressively and strongly, but not riskily. He put a lot of strength and unrestrained energy into the game, just like "the real Tal!"

Not everybody can regain his fighting spirit so quickly. Let me say a few words about myself. Even now I take a defeat quite badly. After I have lost a game I try to look for the greatest relaxation and diversion from the game: usually I do not analyze it in detail, but seek amusement in an adventure story, the cinema or in a long walk. Next day, however, I am still not completely fit for the forthcoming battle. The practical experience of a number of tournaments has convinced me that after a loss I have to play with particular caution and under no circumstances try to "take revenge". During the game I often warn myself: Am I not overdoing things? If I am playing against a weaker opponent I try to be even stricter with myself: there is a two-fold danger of losing objectivity. Such a psychological preconditioning has usually justified itself. In the Chigorin Memorial Tournament in 1965 I lost to Nezhmedtinov. I conducted the following game against Jansa in the spirit of the advice I have just given, even when it became clear to me that I had a won game.

Tal is no doubt right in saying that "Every chess player creates his own luck" and it would hardly be justified to expect a single firm recipe which would offer a guarantee against defeat in all cases. That is not my present intention: all I wish to do is to advise chess lovers how they might influence their chess fortune.

CHAPTER 8

Looking at one's opponent

The following question is of great importance for the practical chess player: Can information of any value be gained from one's opponent's appearance? Can one draw inferences about one's opponent's emotional state from his features, gestures or clothing?

It is my opinion that a combination of direct observation with other methods of preparation is important for a flexible and objective understanding of one's opponent. In order to check this contention I tried to determine whether personal contact with one's opponent influenced results. To do so I compared the results of Grandmasters in their first and subsequent games against a particular opponent. It transpired that for those chess players who consider psychological preparation important, direct observation of the opponent did help in studying him. Emanuel Lasker, Botvinnik and Tal should be mentioned in this connection. Zak seems to have been justified in remarking: "In order to solve the problem posed by each of his opponents it was not sufficient for Lasker just to know his opponent's previous games. It was very important for him to get to know their nature and temperament, their inclinations and habits, their time-tables and behaviour at the chess-board and in life; in other words, things which could only be found out from personal contact with them. It is not surprising that the first games against strong opponents were the most difficult for Lasker."

I have asked roughly one hundred Masters and Grandmasters what they think about the perception of their opponents. A number of them categorically denied that it had any importance at all, in terms such as: "I do not pay any attention to my opponent's behaviour: I only consider the position on the board."

However, almost eighty per-cent of those questioned favoured observation of their opponents. "I always try to take into account all the emotional nuances in my opponent's behaviour", said Gufeld.

Some chess players have carried out special and prolonged observation of future opponents. Petrosian, for example, when preparing for his first match

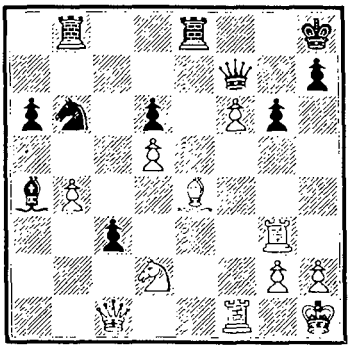
with Spassky, went to Tbilisi in 1965 to watch the Spassky-Tal match, and Spassky in his turn used their common participation in the tournament in Majorca (1968) for the same purpose. This all goes to show that the saying that it is better to see once than hear a hundred times, also applies in chess. If one confines oneself exclusively to theoretical preparation and tries to disregard one's opponent then one turns the game into a sort of correspondence game. If one does not take into account one's opponent's personality and the concrete psychological conditions of the struggle one considerably lessens one's chances!

At the same time, one must not see the perception of one's opponent as a kind of magical help which will always suffice for a full and correct understanding of one's opponent. Observation can bring about success if it is combined with other methods of studying one's opponent and his games. The verdict of the replies to the questionnaire was that observation was useful for those players who were interested in it when used in conjunction with other methods of preparation.

Consider the *oeuvre* of Chigorin, Tarrasch, Rubinstein and Capablanca. They did not pay much attention to psychological preparation. It is quite possible that they did, on occasion, attempt to make sense of their opponent's behaviour, but that these efforts were ineffective because of the lack of other forms of information.

On the other hand let us look at some concrete examples of players drawing conclusions from their opponent's appearance. We are using the word "appearance" to include the structure and movements of a person's face and body and observable changes in his breathing, circulation, the functioning of externally secreting glands, his voice and even his clothing.

Great attention is usually paid to the expression of the eyes. A curious incident happened at the Candidate's Tournament in Curacao (1962). For one of his games against Fischer, Petrosian had prepared the old MacCutcheon variation, which nowadays does not have a very good reputation. Vasiliev wrote: "When Fischer saw that Tigran had chosen an unexpected and difficult opening he looked at his opponent as if he were offended. Petrosian noticed the glance and congratulated himself on a successful psychological achievement". Fischer's look betrayed his ambition to punish his opponent immediately, for "disrespect" and he showed over-confidence in the opening. We should add that the look was not misleading: Fischer conducted the opening on impulse, became upset and eventually lost the game.



Grigorian-Lutikov

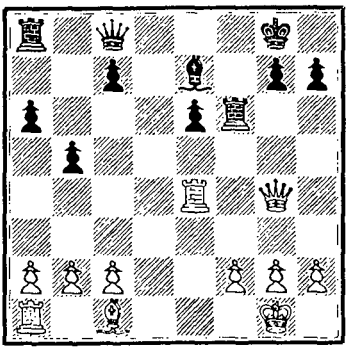
Grigorian said that in this position he could not at first see anything decisive but he was alerted by the worried expression of Lutikov's eyes. Grigorian started looking for the cause of the worry and soon found a forced win:

30 B×P! P×B 31 R-R3ch K-N1 32 N-K4! R-N2 33 N×QP Q-B1 34 Q-N5 B-B7 35 Q-R4 Q×P 36 Q×Q Resigns

A chess player's state of mind is often reflected in his facial expression. In the second game of his match against Geller in 1971, Korchnoy, who had the worse position, used this fact to his advantage. Korchnoy wrote: "All of a sudden Geller looked if he had decided to give this world up. He had to make four more moves. The flag of his clock was slowly rising, but his face expressed total resignation. I offered him a draw which he accepted without hesitation; he just waved his hand and agreed."

Fischer is also among those who carefully watch the facial expression of their opponents. Photographs of him taken during the match in Revkjavik speak volumes. Fischer sits with his hands clutching his head but with little holes between his fingers through which to carefully study not so much the position as Spassky, absorbed in his thoughts.

In his book "My 60 Memorable Games" Fischer often tells of observations he made in the course of a game.



This position is from the game Fischer-Trifunovic, Bled 1961. Fischer wrote: "At this point I nearly fell into a subtle trap. While analyzing the variation 17 B-N5? R-N3 18 P-KR4 P-R3 19 Q-R5, I noticed that Trifunovic was far too calm, and I began to suspect that he was reading my thoughts. Then I noticed that Black would win after 19...Q-K1!" The move **17 B-K3!** was played in the game.

Information about one's opponent's state of mind can also be gained by observing changes in his breathing. In particularly tense moments of the struggle a lot of players literally breath more heavily. Suetin, at such moments, often coughs; this is not caused by a cold, but by over excitement.

Changes in circulation are also often observed. Doroshkevich related how, while he was playing against Zilberstein (Perm 1971), he noticed that his opponent's ears had suddenly become red. Doroshkevich deduced that his opponent was not satisfied with his position, and his observations subsequently proved to be correct.

In some cases, changes in the activity of externally secreting glands (tears, saliva and perspiration) also give information about a player's state. In the game Tal-Panno, Portoroz 1958, Black conducted a sharply played game very well for a long time, but at the last moment he made a mistake. Koblentz attributed Panno's mistake to tiredness: "Drops of perspiration were visible on his face."

There are other expressive motions, besides those of the features, which provide a lot of information. Walking, for example. One can evidently tell a lot about the emotional state of one's opponent by the way he walks. "I could hear Geller walking behind my back and I could feel that he thought he was going to win the game soon," Korchnoy once said.

Chessplayer's gestures are even more expressive. In this game against Gligoric in the Helsinki Olympiad 1952, Najdorf left a pawn *en prise* in time trouble, and then desperately clutched his head and reached out as if wanting to take the move back. Not having much time to think it over and not suspecting duplicity,

Gligoric took the pawn, and soon thereafter lost the game. It transpired that Najdorf had staged the whole pantomime to blunt his opponent's watchfulness. This can hardly be called ethical.

Gestures, however, are not only good for tricks of that nature. When uncertainties arise Borisenko usually raises both his hands, while Lein, when undecided which move to choose, slowly reaches his hand out towards a piece and then pulls it back and again plunges into prolonged thought.

It is interesting to observe how the way a chess player moves the pieces on the board depends on his emotional condition. When Gufeld is in a good mood he places the piece exactly in the centre of the square, but as soon as he is in doubt the beauty of the geometrical proportions is disturbed and the pieces are practically thrown onto the board. Tal recounted how he once felt Smyslov's fury demonstrated in the way he diligently screwed the pieces into the board (The third round of the Candidate's Tournament, 1959).

I should also mention changes in pose and posture. It is noticeable, for example, that Nezhmedtinov, who is usually hunched over the board, lifts himself from the chair when the crisis of the struggle approaches. Petrosian likes walking up and down with his arms folded. Observation shows that this posture is only adopted when all is quiet at the front.

One impartial witness to a chess player's passions is the score-sheet. The writing on the score-sheet is a true indicator of emotions during the course of the game. One often sees a player changing from full to abbreviated notation in the course of the game; and when he gets into difficulties his writing becomes illegible and messy.

Speech is also an indicator of mood. Great excitement transforms the inner musings of many players into audible speech. Several times while playing Dubinin I have heard him whispering his thoughts about the position when he was particularly excited.

Confidence is usually accompanied by laconic and decisive speech. When I offered Korchnoy a draw at Sochi 1965 and received a curt mettalic "no", I understood that my opponent had plenty of confidence.

While speaking of the outward expression of emotions I should mention tidyness of appearance, and in particular, clothing. One of the participants of the Moscow Grandmaster Tournament in 1967 told me: "I had an important game ahead of me. My opponent was late. At last he appeared panting heavily and went to the board. I noticed that he had not shaved properly and that his tie was tied on messily. I thought he was not prepared for the forthcoming battle, and my judgement was justified. My opponent's play was slack and I soon took the initiative."

Thus the most diverse aspects of appearance give information about the chess player's state of mind. Are all the factors of the same importance, and if not, which provide the most information? The psychologist Bodalev wrote: "In

the course of communication most people concentrate attention on their partner's face and above all, on the eyes, which are evidently the central feature of a person when it comes to perception." Thus the expression of the eyes and facial features are the main sources of information about one's opponent. Watching these is the most informative.

The most important practical task is how to understand and interpret the information one derives in this way. It is difficult to draw correct conclusions on the emotional state of one's opponent from purely outward manifestations.

Outward appearances are often deliberately regulated: "he looks confident, so he must know the opening well." Later, however, it transpires that it was just a show of confidence: it was good acting but bad play.

What can one suggest for the analysis of data from observation? I have to reiterate that data has to be compared with information obtained by other methods. The effectiveness of perception (and of the understanding based on it) of another human being depends on three main conditions: the ability of the observer, the personality of the person observed and the properties of the situation at the moment of observation.

While making observations it is essential to consider how psychology interprets outward manifestations of a human being's behaviour. Paleness is usually interpreted as a sign of fear; perspiration and sweating as anger, embarrassment and nervousness; hands tightened and elbows pressed to the hips as a sign of cautiousness; restlessness, frequent changes of pose, rubbing the face and hair and changing the position of the legs as a sign of worry; and so on. The above information cannot, of course, be applied automatically in all chess situations; they are only for general orientation. It is important that the information be purposeful and systematic. For a beginner it is advisable to try to concentrate on a single sign, rather than trying to read them all at once. Let us, say, try to watch the gestures of our opponents in the course of a tournament.

It can justifiably be asserted that for a correct understanding of one's opponent it is essential to know him well. In each observation one must consider the idiosyncracies of the particular individual, otherwise mistakes are inevitable. For example, we have said that paleness is usually a sign of fear, and this is true in most cases. For Tal, however, the reverse is true: paleness is an indication of decisiveness and purposefulness. For many people frequent changes of pose are a sign of disquiet, but for Taimanov they are a normal pattern of behaviour, not connected with excitement at all. For this reason, for a successful understanding of one's opponent one needs not just episodic but consistent observation of his behaviour. Only in this way has the observer sufficient grounds for judging what paleness, impulsiveness of movements and other outer factors mean in a particular case.

The results of observation have to be thoroughly analyzed, compared and, if

possible, assessed quantitatively. All this is essential for ascertaining the main elements in one's opponent's behaviour. Much of the success of observation depends on the situation of the game. As a rule, the tensest moments of the game are the most informative, for at such times a chess player cannot always hide his real feelings even if he wants to. Experience shows that valuable information can be gained by watching a player at the finish, in time trouble and in other complicated situations. A. Zaitsev said that he watched his opponent particularly closely after he had made a strong move, since chess players express their feelings more openly when in difficulties.

The effectiveness of observation also depends on the personality of one's opponent and on his ability to control the manifestation of his emotions. One's success in hiding one's emotions depends to a certain degree on one's temperament. For example, a person who is easily excitable by nature has much more difficulty in hiding his feelings than a balanced and phlegmatic individual. It is, of course, not only temperament that determines one's ability to mask one's emotions: an important role is played by conscious control over behaviour.

Educating oneself in restraint is a complicated process, involving the development of will power in one's character. Chessplayers pay little attention to this side of the game. Here are some opinions: "I hide my feelings more or less subconsciously; if I have to make an effort, then I do not try to restrain myself;" "I do not consciously hide my feelings;" "I do not hide my feelings during the game; it would make me insincere in life" (!?).

It is curious that Alekhine, who gave such an example of successful self-education, did not pay any attention to hiding his feelings. Botvinnik recalled: "At the board Alekhine was such a direct person that when he intended some combination he could not restrain his feelings."

Whereas Alekhine ignored the masking of his feelings, there are many chessplayers who understand its desirability but are not capable of effecting it. These failures are probably due to insufficient self-control and excessive excitability.

Master G. observed: "I try to camouflage my feelings but I cannot manage it. As soon as I am absorbed in the position I forget about self-control." Benko understood very well that his expressiveness provided his opponent with important information, but still he could not camouflage his feelings. It was for this reason that he appeared in dark glasses one famous occasion when he had to play Tal (Candidate's Tournament, 1959), and not because he was really afraid of hypnosis on Tal's part; it was perhaps an artificial means of self-camouflage, adopted when natural methods failed.

On the other hand there are some enviable examples of restraint. Keres could not be seen through! Not a single gesture or facial expression betrayed his real emotional state. Spassky is also imperturbable. Fischer said that by looking at

Spassky one could not tell whether he was winning an important game or about to be mated. Keres' and Spassky's restraint is the result of deliberate self-discipline. It is true, though, that camouflaging is easier for them because of their natural, balanced temperaments. Tal's successful camouflaging deserves particular mention. Being very impressionable by nature he has only succeeded in masking his feelings with difficulty.

Camouflage has rendered good service to Keres, Spassky, Tal and other chessplayers. It has helped them many times. Camouflage is an acceptable method of struggle in chess. By "camouflage" we mean trying to hide one's own feelings, not putting on deceptive scenes to upset one's opponent. The former is perfectly in accordance with the rules of chess behaviour and established ethical traditions, but one must take a different attitude towards "camouflage" used deliberately to deceive an opponent. This is not really camouflage, but rather downright psychological provocation, which has nothing to do with ethical human communication. To this end, for example, a player feigns despair as if he has made a terrible mistake. Gunsberg succeeded with this in one of his games against Steinitz. The latter took a seemingly undefended pawn, thereby falling into a trap and losing a piece. While Steinitz was thinking over his move Gunsberg kept on sighing, putting his hand to his heart and so on.

There is quite a wide range of such methods of deception: making a noise with the pieces in moving or pressing the clock, making constant offers of draws, intentionally writing down a weak move while thinking of a stronger continuation, and so on. I shall not continue. I have said enough to indicate the proper attitude towards these ungentlemanly tricks.

We have now made the acquaintance of some aspects of the perception of one's opponent during the course of a game. There can be no doubt that such observation allows one a better understanding of the level of one's opponent's preparedness and his emotional state, and helps one to forsee his intentions.

CHAPTER 9

The Study of One's Opponent

Most positions in chess are problematic, and experience shows that in such positions a chess player considers several possible continuations of roughly equal merit. The choice of one or other of these depends to a considerable degree on the player's personal idiosyncracies: his experience, knowledge, character and style. Knowing one's opponent and understanding him as a human being enables one to foresee better his likely course of action and accordingly to choose one's own strategy with greater accuracy. To be successful a chessplayer must have the ability to understand his opponent's intentions.

Dr V. Malkin (who is a Doctor of Medical Science) has justly observed: "The chessplayer-psychologist to a great extent builds his game on a prognosis of his opponent's decisions. . . . It is noteworthy that the player who is better at predicting his opponent's play and strategy has a considerable advantage."

Nevertheless, important though this question is, the study of one's opponent's style of play and character is only one side of the problem. In the chess struggle it is important not only to understand the inner world of one's opponent, but also to know how to choose a strategy which is the most agreeable and familiar to oneself while being the least acceptable to him. The study of another person must be accompanied by a study of oneself. In other words, it is impossible to exploit the information derived from a penetration of one's opponent's psyche without an objective appreciation of one's own merits and failings.

Emanuel Lasker was the first of the great chess players to understand the significance of the study of one's opponent's personality. He pointed out many times that it was human beings who fought over the chess board, not merely wooden pieces. He did not prepare to play just against the abstract black or white pieces, but tried to turn to account the merits and weaknesses of each one of his opponents.

This approach to chess brought Lasker great practical success, which his contemporaries could not understand. In his book on the Nuremberg Tournament of 1896 Tarrasch included an interesting "luck table" showing how many points each of the participants gained or lost through "luck". Top of the list was Lasker. He won five games from worse or level positions through obvious blunders on the part of his opponents. Tarrasch and other commentators thought this to be some sort of magic. It was not till thirty years later that Reti gave the correct explanation of Lasker's constant good fortune. Reti wrote: "He does not make the move which is objectively best, but tries to make the move which is the most unpleasant for each opponent individually; he tries to turn the game into paths which are foreign to his opponents, and to this end he often deliberately makes weak moves. . . . Thanks to this Lasker's opponents cannot engineer positions which suit their styles . . . they have to overcome difficulties specially created for them. In consequence they spend a lot of time thinking and then have to move quickly while they are confused by the difficulty of the position. Then Lasker comes down on them with the whole of his colossal strength. By this time his opponent, though still perhaps having the better of it, breaks down, and this psychological catastrophe leads directly to a catastrophe on the chess board."

How did Lasker manage to achieve such a deep understanding of his opponent's characters, and what were his methods of research? Lasker himself, unfortunately, spoke little about his preparation. We quote one of his frankest pronouncements. A journalist asked him the following question: "We have been told that you go to great trouble to study the games of your opponents and to discover their weak and strong points. Is this true?" Lasker's reply, which is quoted in full on page 6, was in the affirmative.

Lasker thus points to the analysis of games as the main source of understanding of one's opponent. Which of his games should be analyzed? All, or just some of them? How should one study the games themselves? By stages of play, according to the opening or depending on his position in the tournament or are there other criteria? All these questions Lasker left unanswered.

Lasker also omits to tell us how to use the data obtained from an observation of one's opponent in practice. One can furthermore suppose that his understanding of his opponent was based not only on the analysis of games, but also on direct contact with him.

In order to verify this suggestion I have conducted a comparative analysis of Lasker's results against chessplayers of Grandmaster standard. The concrete aim of this research was to clarify the influence of the result of the first game (i.e. the first direct contact over the board) on the outcome of subsequent games against the same opponent during the peak period of his mastery (1896-1925).

Let us look at the facts presented in tabular form.

Lasker's *opponent*	**Results of the *first game***	**Tournament**	**Overall results of subsequent games against same opponents**
Maroczy	½	Nuremberg, 1896	42 out of 63 66.7%
Marshall	0	Paris, 1900	
Bernstein	½	St. Petersburg, 1909	
Rubinstein	0		
Alekhine	½	St. Petersburg, 1914	
Capablanca	½		
Bogoljubow	1	Mährisch-Ostrau, 1923	
Grunfeld	½		
Reti	1		

Average result of the first game: 4½ out of 9: 50%.

Comparsion of the results of the first games (50%) with those of subsequent games (66.7%) justifies the assertion that it was very important for Lasker to study his opponent through direct contact. The mere analysis of published games, unsupported by concrete observation of the psychological circumstances in which the games were played, did not yield the same understanding of the opponent's psychology. The small number of points Lasker scored in his first game against the Grandmasters enumerated above clearly supports our contention. In particular he lost his first games against Marshall and Rubinstein although he subsequently had excellent results against them (20 points out of 27).

A combination of direct observation and the analysis of games during preparation is, in my opinion, an essential pre-condition for the objective understanding of one's opponent in chess. Lasker's example is no exception; it confirms the correctness of this thesis.

I shall prove this by means of a comparative analysis of the results of other strong players. I have chosen Chigorin, Tarrasch, Rubinstein, Capablanca and Botvinnik. Of these Botvinnik is the only one who stands out as as an expert on psychological preparation; the rest are known to have paid much less attention to the individual traits of their opponents. Capablanca expressed their attitude perhaps the most explicitly of anyone: "When you sit down to play chess, think only about the position and not about your opponent. Whether chess is to be regarded as an art, a science or a sport, in any case psychology has no place in it and only stands in the way of real chess."

I have analyzed the results of these Grandmasters during the peak years of their careers and have tabulated the results of the Grandmasters against opponents of the highest rank.

Name	Percentage scored in the first game	Percentage scored against the same opponents in subsequent games
Chigorin	65	50
Tarrasch	79.1	62.6
Lasker	50	66.7
Rubinstein	62.5	59.3
Capablanca	63.7	59.8
Botvinnik	55.8	61.5

The table shows that Chigorin, Tarrasch, Rubinstein and Capablanca did better the first time they played other Grandmasters than in subsequent games against them. This circumstance has no explanation other than that they made less use of personal contact over the board than did their opponents.

Extant material supports this conclusion. Capablanca's attitude towards the role of psychology has been noted above. Rubinstein stated that he played against the black or white pieces, and the opponent's personality had no significance. Tarrasch considered chess to be primarily an intellectual problem, the solution of which did not depend on the player's personality, but was entirely subject to theoretical rules. Chigorin did not pay sufficient attention to foreseeing his opponent's behaviour. The clearest example of this are his losses to Steinitz (23rd match game, 1892) and to Janowsky (Hastings, 1895). At the same time there was nobody to equal Chigorin in the realm of pure analysis, where an understanding of the opponent's individuality was unimportant. We remind the reader of his brilliant victories over Steinitz (telegraph match, 1890-91) and Emanuel Lasker (thematic match, 1903).

The psychologists, Lasker and Botvinnik, improved their performance significantly after their first meeting with a particular Grandmaster. No doubt the study of their opponents through their games was enriched by additional data furnished by observation of their opponent's behaviour. Botvinnik's successes in his return matches against Smyslov (1958) and Tal (1961) are more understandable when seen in this light—Botvinnik needed a certain duration of personal acquaintance with his opponents in the course of a tense match in order to understand them better.

THE STUDY OF ONE'S OPPONENT

Lasker's theory of the necessity of studying one's opponent had a great influence on Alekhine: the latter referred to Lasker as his teacher. The material relating to Alekhine's preparation for the World Championship match against Capablanca (1927) is of great interest. Alekhine aimed to discover the permanent traits of character and chess style of his opponent; this was the main methodological principle of his research. He was critical of conclusions based only on a single observation. On the occasion of the first game between Alekhine and Capablanca from the New York Tournament of 1927 Alekhine wrote: "Because of my poor play the value of this game as chess is nil. It did, however, have a tremendous psychological significance, though for the general public rather than for the loser. There is no doubt that it was because of this game that 95% of so-called expert commentators tried to convince the whole chess world (and partially succeeded therein) that there would be no fight in Buenos Aires [i.e. in the forthcoming World Championship match-N.K.], merely a walk-over. Had these gentlemen taken the trouble to compare this game with any number of average tournament games of mine from recent years they would have had a somewhat different opinion."

Believing that a chess player's style of play depended on his character, Alekhine was very sceptical about the possibility of a sudden change in the creative disposition of a mature master. About Nimzowitsch he said: ". . . it is hard to credit the fact that after a 25-year-long career he could succeed in radically changing the character of his play."

The main concrete method Alekhine used to study his opponents was the analysis of games. For example, before his match against Euwe in 1937 he included in his preparatory tasks "to carry out a thorough analysis of all games played by Euwe in the period between our two matches." Before his match against Capablanca he said that among the objects of his study were practically all games played by his opponent starting from the Capablanca-Marshall match of 1909. He paid particular attention to recent games.

Alekhine indicated some of the stages of his analytical work. First he made a general characterization of each of Capablanca's games, during which he aimed at discovering the turning points of the struggle and the critical position of the game. In this way he determined the causes of the result. Here is his description of the third Capablanca-Spielmann game from New York, 1927: "In the course of home analysis Capablanca found a strengthening of a variation which had been played between the same opponents in the first round, and in consequence of his opponent's indifferent play he reached a won position as early as the opening. The final combination, although quite simple, was precisely calculated."

It is essential to point out that in determining the reasons for the outcome of a game, Alekhine did not as a rule just stop at analyzing the game itself, but tried

to connect it with individual traits of the player's characters. Here is how Alekhine summed up the games between Spielmann and Capablanca from New York, 1927: "Spielmann was the only one who played against Capablanca at his usual level of strength. His mistakes were of a psychological nature: he just could not believe that it was possible to defeat the 'unbeatable' Capablanca, even after he had gained the better position."

At this stage of the analysis Alekhine drew some preliminary conclusions. He noted Capablanca's highly developed intuition and observed a failing, consisting of a comparatively low level of critical thinking, which was particularly evident in favourable positions.

In the second stage, analysis was carried out according to the phases of the game: opening, middle game and ending. In this the earlier conclusions received a firmer foundation or were changed. This analysis allowed Alekhine to crystallize his hypotheses and pay attention to some additional, important sides of Capablanca's style of play. For example, he claimed that, contrary to widespread opinion, Capablanca's opening repertoire was notable for thorough home preparation.

In other words, during the second stage of analysis Alekhine drew his main conclusions about Capablanca's play. These considerations determined his concrete plans for preparing for the match.

Here are the main conclusions of his analysis.

(1) The opening. I found that Capablanca had a highly developed intuition for the choice of sound and practically effective continuations. This induced him to aim at simplification. He showed great ingenuity in dealing with opening surprises.

(2) The middle game. He relies mainly on a quick intuitive assessment of the position. This leads to speed and ease in conducting the game, together with an obvious inadequacy in critical thinking. Because of his excessive faith in intuitive assessment mistakes in calculation are not uncommon. Alekhine concludes: *. . .he cannot be trusted in the middle game: each of his tactical ideas needs careful checking, for he is liable to error.*

(3) The endgame. A very high technical mastery at this stage of the game, but in positions of a dynamic character requiring a deep concrete calculation of the possibilities for both players over a number of moves he plays relatively weakly.

Alekhine further compared the games his opponent had played in the periods 1911-14, 1918-21 and 1922-27. This work helped him to spot tendencies in the development of Capablanca's style as well as providing more solid grounds for his psychological conclusions.

Alekhine said: ". . . over the years one observes in Capablanca's games ever less depth in working out details; the reason for this is his unshaken confidence in

the infallibility of his intuition. It was unfortunate for Capablanca that his system of operating with "good" moves almost invariably proved sufficient, since in most cases he was opposed by weapons which were, in a positional respect, hopeless. Because the playing of second best moves has gone unpunished he has lost the habit of that concentration of thought during the game which alone can guarantee against rudimentary oversights, while at the same time his self-confidence has grown beyond measure, almost to the point of self-deification."

Alekhine does not say much about other methods of studying one's opponent. However, his scattered remarks on the subject provide interesting material. We are told, for example, that he made a special investigation of those positions in which Capablanca came up against particular difficulties (an innovation in the opening, a preponderance of the combinative element in the position). This research was apparently the first in chess history to be accompanied by a recording of the time spent on thinking over each move. This study proved most useful. For example, Alekhine came to the conclusion that it was pointless to try to embarass Capablanca with a surprise in the opening.

Unlike Lasker, Alekhine told us about the use he made of his observations of his opponent's behaviour. In the course of observing his opponent over the board Alekhine noted Capablanca's growing uncertainty in the face of stubborn resistance. "This was a most important discovery for the future," he wrote.

Alekhine also studied literary sources. He looked at Capablanca's books, his comments on games and his interviews. It was not without justification that Alekhine complained that masters did not willingly speak of the reasons for particular moves in their games. Nevertheless, Alekhine valued highly the information he derived from chess literature. Before the return match against Euwe in 1937 he considered it essential to look through "his articles and annotations to his own and other games." From studying Capablanca's publications Alekhine discovered his opponent's views on opening preparation, his attitude to his own success and his beliefs on other questions. Particular mention should be made of Capablanca's article in an Argentinian newspaper in which he said that in order to become World Champion one needed a miracle to happen, and his interview on the "drawing death" of chess, in which he more or less suggested that he was invincible.

Alekhine was the first to turn to a statistical analysis of chess information. Of Capablanca's mistakes in conducting tactical operations he wrote: ". . . one must not consider these sporadic manifestations of that weakness as rare ocurrences, for the overall number of tournament games played by Capablanca in recent years is fairly small in comparsion with that of other masters, and so the number of his blunders is proportionately the more significant."

Alekhine continued and developed Lasker's ideas on the study of one's opponent. His research is notable for the use of a wide range of methods in

combination with logical and psychological assessments of his opponents. We should also note Alekhine's attempt at objectivity in his research and at an unprejudiced check of his results by means of comparative analysis. Speaking of certain of Capablanca's failings, for example, he pointed out that they were of a relative nature. He stated that Capablanca was an excellent player, and that research into his play must in no way lead to an underestimation of him as an opponent.

As I said earlier, from time to time Alekhine used the timing of games. This practice gained further justification in the work of the Soviet master and psychologist Blumenfeld. He pointed out that the time used for thinking was an objective, quantitative parameter of the creative process. A comparsion of the time spent on a move with the objective complexity of a position allows us to draw inferences about the subjective difficulty for a particular player in the choice of his move, and bears a certain witness to the nature of the thinking and will of that player.

"As far as possible such an analysis should be supplemented by questioning the players or by self-observation. Unfortunately, nowadays it is not realized what extraordinary interest the timing of moves can have, both for general readers and, still more, for research," Blumenfeld wrote as long ago as 1937.

In recent years these recommendations have been put into practice, mainly thanks to the efforts of Bronstein, but no results of the use of timing for research purposes have been published so far.

At the present time the successful exploitation of the study of opponents is mainly linked with the name of Botvinnik. In a number of articles he has given a detailed description of his preparation for tournaments. He had made extensive use of Alekhine's experience: he once wrote: "From Alekhine one can learn the psychological approach to chess. . .When I had to prepare for the 1948 World Championship Tournament the first thing I did was to go through Alekhine's introduction to the collection of games from the New York Tournament of 1927. In this article Alekhine gave a deep analysis of Capablanca's play and shared his thoughts and plans with the reader."

Before his match against Flohr in 1933 Botvinnik set himself the task of going through as many of Flohr's games as possible. From an analysis of these games inferences could be drawn about his opponent's style, technique, favourite schemes of development and most frequent openings. It was essential to find out how strong he was on the psychological side, whether he was easily influened by "mood", how strong his defence was and so on.

Botvinnik conducted his analysis very purposefully. He made a short description of each of Flohr's games (remember Alekhine's first stage), then he compared Flohr's games over a period of several years and lastly he dealt with crisis situations, the analysis of which revealed an insufficient psychological

stability on Flohr's part. The conclusions Botvinnik came to before the match proved correct during its course.

In more recent lectures Botvinnik has described what is basically the same method of preparation, but with one important difference. He has spoken of the analytical and logical sides of preparation and scarcely touched on the question of the connection between the logical components of chess and the individual and psychological characteristics of the opponent. A typical pronouncement for Botvinnik is: "In what does the art of a chess master consist? Basically it is the faculty of analysis of chess positions" Compare also his belief in training games as a universal remedy for shortcomings.

This might give the impression that Botvinnik has abandoned psychological analysis in practice. This has had some effect on a number of strong players. They have conscientiously devoted themselves to pure chess analysis *"à la* Botvinnik" and at best made a few general observations about their opponent's psychologies. I believe that this attitude has impoverished their chess.

I can justifiably claim that Botvinnik's stand has been misunderstood. It is true he has not spoken much about the psychological side of preparation, but there can be no doubt that he has continued to devote himself to this aspect seriously and successfully. To prove this statement here is his description of one of his games against Euwe (1948): "I had sacrificed a pawn and Euwe had accepted the sacrifice (as he likes to do), though it would perhaps have been better to decline it. I gradually became calmer: it seemed that the conclusion I had come to about Euwe before the match were correct. Euwe was deep in thought; Black's position was not easy: White had attacking chances. If Black went into an ending immediately it was clear that his position would be bad; however, I thought that if he developed his bishop to K3 then I had no tangible advantage. At last Euwe moved: he offered the immediate exchange of queens! My excitement left me—my assessment of Euwe was correct! He usually feared an attack on his king, and this time was no exception: once again he could not face the prospect. He could not wait even a single move for the exchange of queens."

Botvinnik has spoken about detailed characterizations of Keres, Reshevsky and other players which he made in the course of a wide ranging study of their play. He made use of direct observation of his opponent's behaviour. His recollections of his games against Tal (1961) and Alekhine (1937) bear witness to this fact. Information obtained in diverse ways was systematized and generalized. Botvinnik said in one interview that whenever possible he made use of the methods of mathematical statistics in elaborating his data.

There has been considerable progress in recent years in the art of understanding the style and character of one's opponent. However, there remains a great deal more to be done on this fascinating aspect of chess.

CHAPTER 10

Know Thyself

Nowadays in chess literature one is quite often referred to psychology. The expression "a psychological approach" is fashionable in the every day language of experienced trainers and even of juniors who have newly stepped onto the slippery field of chess. Everyone seems to pay tribute to this science nowadays, but in connection with chess the word "psychology" is used in a rather special sense.

One sometimes gets the impression that branches of the tree of psychological knowledge are constantly being lopped mercilessly off in order to give a better view of the trunk; and in consequence we are left with a bare remnant which bears just a little resemblance to the science of psychology as does a whittled pole to a live tree.

I would like to discuss in detail one example of this surgical approach.

As we all know, chess has no "close season". On every day of the year thousands of chessplayers are competing in tournaments which are held in almost every corner of the globe. And every participant in these battles of the most diverse standards and significance is dreaming of winning the next game, of surprising and baffling his opponent.

Who, in thinking over his plans for the forthcoming battle, has not been advised by a well-wisher along the following lines: "You are playing A, aren't you? Don't forget that he attacks well, but he is not nearly as good in the endgame: exchange pieces, come down to an ending and success is guaranteed."? Such a receipe, either coming from a friend or reached as one's own conclusion, sweetly lulls the consciousness. One seems to have the key in one's hand, and the rest looks easy: some simple manoeuvring, a couple of exchanges sometime after the opening and that's it—a point in the tournament table.

In reality though, it is not so simple. Somehow the magical "Open Sesame" doesn't work and instead of the planned pressure on the opponent one is unexpectedly on the rack oneself, and moreover one's opponent (who is meant to be "weak in the endgame") confidently wins the ending.

So here is a psychological approach leading to catastrophe!

To be fair, however, this has nothing to do with psychology. It is the chessplayer who is to blame for paying attention only to one side of the preparation—the study of the opponent's style—and completely ignoring his own preferences, knowledge and habits in the art of chess.

To try and build one's plans exclusively on the opponent's peculiarities ends in fiasco more often than not. Alekhine once said that for a chessplayer to be successful he must first of all understand his own strengths and weaknesses and only secondly know about those of his opponent. Regrettably, this major principle of preparation is often forgotten. The training of even quite strong players very often consists only of a critical analysis of the opponent's play.

I remember gatherings of the Russian Federation team, for which I have been playing for more than ten years. How often our trainers have urged us: "Your opponent is weak in defence, so do not hesitate to attack: press forward vigorously and you are sure to win." That some of us are even weaker in attack and not very zealous in taking the offensive was forgotten in the flood of encouraging phrases. And following the advice of our trainers we bravely pushed our pieces onward, ever onward. . .and then realized with horror how far we had exceeded the frontiers of good sense.

One day our mentor said triumphantly to one of our masters: "I have found the best way of handling your opponent. He absolutely cannot stand the Sozin attack in the Sicilian defence." "Yes, but I don't play P-K4," timidly answered the master. "That doesn't matter, we will prepare it" was the authoritative reply.

After an hour's cramming the poor maestro set off to play P-K4 for the first time in his tournament career. The punishment came swiftly. His opponent "surprisingly" played 1...P-K3 and with little knowledge of French positions our ill-fated "hunter" suffered defeat and the team lost an important point.

It is said that experience is the best teacher and in recent years in RSFSR team has changed the style of its training.

Nevertheless, the conception of psychological preparation as consisting of the study of the characteristics of one's opponent's play is still quite common. However, I shall not dispute such views merely on the basis of general considerations. Let us see some examples from tournament experience.

My first international tournament was in 1957. It was in a Rumanian town—Ploesti. A participant who particularly attracted me was Ion Balanel from Bucharest. He gave the impression of a widely educated, sociable and at the same time exceptionally tactful and modest man.

We spent quite a few hours together, analyzing the most varied positions, and the Rumanian master never made an attempt to bludgeon me into his way of thinking but always tried to prove his point of view convincingly, asking "What do you think should be done in this position?"

Balanel played outstandingly in the tournament—logically, firmly and soundly. (I was sad to discover later that a serious illness had made him give up chess altogether soon afterwards.)

We met in the fourth round. At this point Balanel had three points and I had two and a half. I wanted to put up a real fight against the tournament leader and in preparing for the game I took into account the fact that he was drawn to a positional style of game. Without much hesitation I chose a gambit line in the Ruy Lopez, the Schliemann variation. In this opening Black sacrifices one or two pawns for a quick attack. I thought that a struggle of that type would be unwelcome to my opponent. At the time the Schliemann variation was popular, and I was still under the influence of the successful use of this variation by Tolush in the recent 24th USSR Championship.

And so, before the game, I was content with my choice: the forthcoming risky business did not look dangerous in the least and the pawn sacrifices glittered in front of me like cheering fireworks.

However, taking a more serious and detached view of my preparation, it is easy to see that the all-or-nothing system favoured by Tolush did not suit my style of play at all. I did not think of this at the time, for I believed in the motto: "What is unpleasant for your opponent is good for you." In the game, though, the venom of the variation acted on me rather than my opponent. I could not orientate properly as the battle was quite foreign to me in character, and I was deservedly defeated.

Let us have a look at the game.

Balanel-Krogius Ruy Lopez

1 P-K4 P-K4 2 N-KB3 N-QB3 3 B-N5 P-B4 4 N-B3 N-Q5

Ignoring the threats to his pawns on K4 and KB4 Black aims to castle as soon as possible and launch an attack in the centre and on the K-side.

5 B-R4!

Preventing the QP from advancing for the time being. If 5 B-B4 then 5...P-Q3 6 P-Q3 N-KB3 7 O-O N×Nch 8 Q×N P-B4 is possible, with good chances for Black.

5...N-KB3 6 O-O

This is much stronger than 6 P×P B-B4 7 P-Q3 O-O 8 O-O P-Q4, with good prospects for Black, as in the game Boleslavsky-Tolush, 24th USSR Championship, Moscow 1957.

6... B-B4 7 N×P P-QN4

Here I began regretting my opening experiment, since 7...P×P is bad because of 8 N×KP, and castling is no better because of 8 N-B3 and P-K5, I could not think of anything but ...P-QN4. And this was not surprising: I did not know anything about the position except for three or four games by Tolush. I had a

superficial knowledge of certain moves, but I did not really understand the ideas behind the defence.

So, not surprisingly, on seeing the unfamiliar continuation 6 O-O I began to count the pawns and think of abstract positional principles, which are generally useful but were completely inappropriate to this position where everything is determined by speed and the time factor. Black's seventh move was just an admission of failure; his position is slowly but surely crumbling. It was still not too late, however, for extreme measures. An example is to be found in the game Lehmann-Spassky, Vienna 1957 which went as follows: 7...O-O!? 8 N-Q3 P×P 9 N×B P-Q4. Black sacrificed a piece, but he had an advantage in development and some chances on the K-side. In spite of its questionable nature Spassky's idea is logically connected with the preceding play, and breathed new life into a position which in my game against Balanel was killed by the compromising move 7...P-QN4. There followed:

8 N×NP P×P 9 P-QB3 N×N 10 B×N O-O 11 P-Q4 P×Pe.p. 12 Q×P Q-K2 13 B-K3 B-Q3 14 P-KB4 B-N2 15 QR-K1 B×N 16 P×B Q×P

White returns his extra pawn and in exchange gets a decisive positional advantage in the strength of the two bishops.

17 B-Q4 Q-N4 18 B-B4ch! P-Q4 19 B-N3 N-Q2 20 B-B2 P-N3 21 Q-R3 R×Rch 22 R×R N-B1 23 B-B6 Q-R4 24 Q-K3 Q-N5 25 Q-R6 Q-Q2 26 P-KR3 B-R3 27 B-QR4! Q-B2 28 B-B6 R-Q1 29 R-B2 R-Q3 30 B-K5 R×B 31 R×Q K×R 32 B×P Resigns

Towards the end of 1962 the 30th USSR Championship was held in Erevan. The passions of the southern fans were high, possibly as high as those of football fans. Their favourite was Mikhail Tal. His style of play—exciting, hazardous and rich in the unexpected—was very much in accordance with the temperament of the Erevan audience. The main struggle for the lead was between Tal and Korchnoy.

Towards the middle of the tournament I had to play against Tal with black. Naturally, I was very worried before this game. To play Tal, and moreover, to have black against him! Everybody knows that with white he plays with double the energy and strength. I was well aware that I faced a life-and-death struggle. I imagined the packed hall with everybody watching and admiring my opponent's every move as if enchanted; I also imagined the Ex-World Champion himself, boosted by the attention of his fans and confident of his will and combinative fortunes.

I gradually came to the conclusion that it was essential to snatch the initiative from Tal at all costs and to make him defend, placing him in an unaccustomed situation, where it was not he who dictated the terms of the battle.

As the reader well understands there is a great difference between a general

conclusion and concrete moves on the board, so I faced a new, but now well defined question: What opening should I choose? I recalled a recent discussion with Tal's trainer A. Koblentz, who had happened to mention that before his game against the Hungarian Grandmaster Szabo, Tal hesitated for a long time because he was afraid of the Marshall Attack in the Ruy Lopez. I therefore resolved to try this system. Theory at the time asserted that the Marshall Attack was not quite correct (since Black sacrifices a pawn), but it was a complicated and relatively little-studied variation in which White had to face a prolonged attack in return for his extra pawn. I had played the Marshall Attack a few times and after refreshing my memory of some points of the line I calmly went to bed. The decision was taken!

And here is how events transpired the following day.

Tal-Krogius Ruy Lopez

1 P-K4 P-K4 2 N-KB3 N-QB3 3 B-N5 P-QR3 4 B-R4 N-B3 5 O-O B-K2 6 R-K1 P-QN4 7 B-N3 O-O 8 P-B3 P-Q4

Here my opponent plunged into thought and I felt I could read displeasure in his face. Tal made the following ten moves comparatively slowly, closely studying the position on the board and he stood up less frequently than usual during my moves.

9 P×P N×P 10 N×P N×N 11 R×N P-QB3 12 P-Q4 B-Q3 13 R-K1 Q-R5 14 P-N3 Q-R6 15 B-K3 B-KN5 16 Q-Q3 QR-K1 17 N-Q2 R-K3 18 B×N P×B 19 P-R4

After this move Tal gave me one of his characteristic searching stares. I did not attribute any significance to it at the time.

19...P-N5?

A serious mistake. I was trying to escape the positional disadvantages of the intrusion of the rooks on the QR-file after the threatened P×P. As further analysis showed, Black had other moves in reserve which were more in the spirit of the position, as well as being more energetic: 19...P×P and 19...P-B4.

20 Q-B1 Q-R4 21 P-QB4 P×P 22 Q×P P-N4 23 P-Q5!

During the last few moves (after 19...P-N5) the position has completely changed (now it is White who is attacking), as had my opponent's appearance. It was as if some miraculous elixir was working on him. He looked calmer and firmer and perhaps, if I am not mistaken, even a little triumphant.

23...R-R3 24 P-R4

Now White's advantage is quite obvious. For example, if 24...P×P then 25 B×R P×P 26 P×P B×P 27 N-B1. White soon won prettily.

In spite of my defeat I was pleased with this game. I thought that to some

degree I had solved the problem of psychological preparation correctly.

On the other hand, the Erevan game also suggested that even a correct characterization of one's opponent is far from assuring a half point. During my preparation I did not fully understand the extent of the stormy cruise I was undertaking without knowing much about the reefs and shallows (that is, the theoretical variations of the Marshall Gambit) awaiting me on my dangerous journey, and that is why I took the rush decision and leapt before I looked.

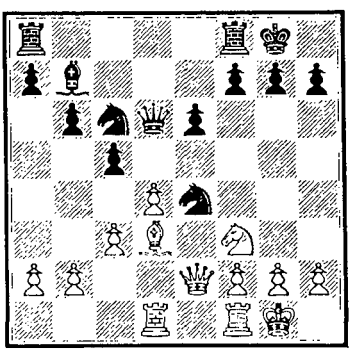
As the reader can see it is sometimes important to look at oneself and not just observe others.

I would like to say a few words now about the forming of a chessplayer. The role of chess literature, lectures, training gatherings and simultaneous displays is generally accepted, and I am not trying to question their significance. There is, however, another side of acquiring chess experience which cannot be measured in ordinary units, and that is contact with stronger chessplayers, their living words, opinions and assessments.

During discussions the door does not always open hospitably into the inner world of the feelings and thoughts of your interlocutor, of course. But how interesting and revealing it is to hear a discourse on the psychology of the real motivation of some decision, and to observe the mood of the player! This cannot be found in any text book.

I have been lucky in this respect. Averbakh taught me a lot. His descriptions, his observations on the struggle and sometimes just an occasional remark influenced my outlook on chess no less than the study of text-books.

However, let us return to our discussion. It seems that the basis of planning for an impending competition must be a global analysis of one's own capabilities and one's own strong and weak points. In co-ordinating these one can try to exploit the weaker sides of the opponent's play. This thesis has underlain my work as a trainer and my own preparation for tournaments in recent years.



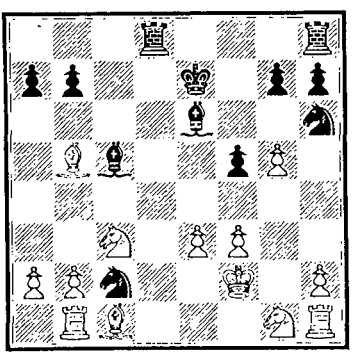
Here is a position from the game Petrosian-Golombek, Stockholm Interzonal, 1952. We let Petrosian speak for himself. "Now, after 15 Q×N, Black would have had to play the unattractive move 15...P-N3, since 15...P-B4 16 Q-K2 P×P 17 B-B4 QR-K1 18 N×P would have been even worse, giving White a clear advantage." Nevertheless, he played **15 B×N.**

The future World Champion commented: "This move also gives White a small, but tangible advantage. Black is forced to weaken his Q-side."

In other words, from two roughly equal continuations, the first of which was ambitious but also risked losing the advantage (the position was not yet fully established and contained a certain element of the "irrational"), Petrosian chose the second, which was more in accord with his psychological temperament: it is better to have a small, but certain and long-lived advantage. It is interesting to see how the game continued. Finding himself in his "own" sort of position Petrosian felt thoroughly at home and accurately realized his minimal advantage:

15...Q-K2 16 P×P P×P 17 R-Q2 R(B1)-Q1 18 R(B1)-Q1 R×R 19 R×R R-Q1 20 R×Rch Q×R 21 P-KN3 White's play is based on exploiting the weakness of the pawn on B5. **21...P-N3 22 Q-K3 Q-Q8ch 23 K-N2 Q-Q3 24 N-Q2 N-R4 25 B×B N×B 26 N-K4 Q-K2 27 P-KR4 K-N2 28 P-QB4 P-QR4 29 Q-QB3ch P-B3 30 P-N3 P-K4 31 Q-K3 Q-QB2 32 Q-Q3 Q-B3 33 Q-Q5 Q×Q 34 P×Q K-B2 35 N-Q2 P-B4 36 N-B4 K-B3 37 P-B3 P-K5 38 P×P P×P 39 P-KN4 P-R4 40 K-N3 P×P and Black resigns**

In the above example, preference in the choice of plans was given to clarity and definition. I would not like the reader to think, though, that I am advocating exclusively this approach. It is simply that the player in this particular case opted for the path where he felt stronger. He acted in accordance with his own style. An illustration of the fact that players make other decisions, sometimes deviating from classical principles, is provided by the game Kashdan-Tartakover from the tournament at Bled in 1931.



This amusing position occurred after Kashdan's fifteenth move. Here the calm continuation 15...N-B2 16 N-R3 P-KR3 17 P-N6 N-K4 18 N-B4 K-B3 suggested itself and Black would have kept sufficient pressure for the pawn. Tartakover, however, chose another way. He played **15...P-B5?!** surprisingly sacrificing a piece.

There is nothing inexplicable or supernatural about this move. And, in our opinion, it is a normal and even prosaic choice on the part of Tartakover. He quite consciously chose a concrete tactical struggle, because he was better at it and usually preferred it to positional manoeuvring. Of course, the move 15...P-B5 shows Tartakover's characteristic courage and confidence, for nothing definite could have been calculated in that position.

The game went like this: **16 P×N P×KPch 17 K-B1 P×P 18 P-N3 KR-N1 19 R-N2 N-R6 20 B-B4 N×B 21 P×N B×Pch 22 KN-K2? P-N4! 23 K-K1 B-N3! 24 R-KN1 R×Rch 25 N×R B-R4 26 N(N1)-K2 R-Q6 27 R-B2 P-N5 28 B-N2 P×N 29 B×P B×Bch 30 R×B R×R 31 N×R K-K3 32 N-Q1 B×P** and Black has a won position. His courage and his skill in playing this kind of position brought Tartakover a well-merited reward.

It looks as though we are coming to a conclusion. However, we haven't finished yet. One cannot give the unqualified advice: "Play positions in which you feel more at home." After all, one's estimate of one's own strengths and weaknesses is subjective and is not always correct. Moreover, a chessplayer should not be thought of as fixed and unchanging. Every new tournament, and sometimes a particular game, enriches his experience and widens his chess horizons. He gradually polishes and perfects his style of play and changes his understanding of his own creativity. We shall now discuss some aspects of a chess player's independent work aimed at the study and elimination of his mistakes and short-comings.

Under the X-ray.

How can one best organize a critical study of one's own play? What method of analysis should one chose? Experience shows that this is one of the most difficult problems for a chessplayer on the road to mastery.

We all know one sees other people's inadequacies and blunders more readily than one's own. To understand one's own mistakes and to eliminate them appears to be even harder.

There is very little written so far about a chess player's "self-programming", and we shall therefore make no attempt to embrace the entire subject, but shall just look at a few particular points which are important for teaching method.

Here is one of them. In many respects chess is a bookish kind of occupation. A significant part of a chessplayer's training is occupied by an independent study

of text-books, tournament bulletins, journals and other printed material. It is therefore very important to be able to read chess literature efficiently.

In reality, however, it often happens that on receiving the latest issue of a chess publication a master briefly skims through the contents or at best plays through the games at lightning tempo. Against this practice one might quote the well-known saying: "it is better to do little, but well." I believe that reading through chess literature can be a starting point for training but under no circumstances the finishing one.

Psychology recognizes two kinds of attention—emotional and voluntary: in the first case concentration occurs because of the interest involved in the subject, its outward appearance and novelty; while in the second, one's thought is concentrated and works at a high level because of a goal one sets oneself beforehand. The best result is obtained when both kinds of attention interact and reinforce each other.

This means that a general survey of games in a new book is not the concluding part of one's serious work, but the beginning. After the process of acquainting oneself with the book it is essential to put aside for detailed analysis the games that are most important for one's own opening repertoire nor must one forget to study the examples of the play of one's future opponents. One must classify these examples and then start the second and main part of one's preparation—a detailed study of the material. I do not believe that a brief survey of chess literature is even half the job.

Another well-known principle is the necessity of studying one's own work. Indeed, one's own games are the valuable witnesses who recount truthfully and precisely what and how one has played.

To a certain extent the above rule is observed by everybody. But to what extent? After the game the opponents, in accordance with tradition, often analyze the details of the battle. Sometimes one has the noble intention of sitting down after a tournament and looking at one's games; however, very rarely are these intentions really put into effect.

I should not like to cast any doubt on the usefulness of going over the game immediately after one has finished. But one must not forget that in such situations the chess player is still under the impression of the recent struggle, and his opinions are often too subjective, and simply wrong.

I believe that just as a writer is well advised to leave his manuscript to wait a while in order to detach himself from the emotions and feelings of the moment and look at his creation more soberly later, so the chess player needs time to forget the joys and miseries of the tournament, and can more profitably go back to the analysis of his games sometime later, perhaps after a month or so. By then the wounds will have healed and he will not need to try to calm himself down all the time.

An unhurried analysis in the quiet of one's study will perhaps help one to understand better where the chess general tarried and where he overpressed.

It is obviously insufficient just to go through one or two of one's games in one's study. Such an analysis should be done systematically, after a proper schedule: the tournament comes to an end, one waits and recuperates, and in due course the time comes to pick up the pawns and set at work. And no excuse of "weather conditions" should be accepted.

From my own experience I can say that during analysis it is most important to get to the truth and try to form a precise opinion of why this or the other plan or manoeuvre was good or bad.

I remember how, having spent two weeks on the analysis of my game against Korchnoy from the 27th USSR Championship, Moscow 1957, I kept on going back to it. At times I thought that at last everything was clear, but then I had some new idea and often even in my dreams I saw some other more attractive distribution of the pieces—and the search went on.

It is hellish work: to check, compare and convince oneself that one was wrong and start thinking and searching once again. Believe me, there is no other way. Like everything else in life, chess victories are achieved by hard work and patience.

And that is how, after having weighed them a thousand times, the chess player gradually becomes convinced that some positions, which were unpleasant before, are a joy to play, and how he knows his way no worse than others in an opening he once knew nothing of.

To continue with our discussion, it is interesting to notice Kotov's article "On the perfecting of a chessplayer", which was published in 1939 in the journal Shakhmaty v SSSR ("Chess in the USSR"). After a detailed analysis of a number of his games Kotov came to the conclusion that the main failings of his play were:

(a) Excessively abstract thinking and a worship of general principles, which revealed itself in the ignoring of tactical points;

(b) A weak technique of calculating variations which usually used up too much thinking time and as a result led to time-trouble.

Naturally such self-criticism suggested concrete work on correcting these mistakes as the next step. It is instructive to see how Kotov set about solving this problem.

He started by analyzing positions full of tactical complications. While doing so he tried not to move the pieces on the board, simulating for himself tournament conditions. He outlined the following concrete tasks for himself.

Firstly, he tried to develop the faculty of calculating variations as far as possible, and to this end he tried to carry out the analysis until the position was quite clear. The examples Kotov quotes show what amazing results can be

achieved using this method.

For perfecting one's technique of calculating it is useful, as Kotov wrote, to solve studies in diagram form without setting up the board and pieces, and also to perform "blindfold" analysis, i.e. following chess literature from the page.

Kotov's advice is very interesting since it was the first time that the doors of a master's workroom were opened and the public was told in detail what concrete things a chessplayer does in his independent work.

I should also like to stress an important psychological point to which Kotov drew particular attention. This is the attempt to come to a definite conclusion in assessing the position as a result of carrying out calculations. Thanks to such training one disciplines oneself not to make merely superficial assessments in tournament play.

Secondly, Kotov tried to develop his tactical intuition—that is, his feeling for which variations out of numerous possible ones should be considered and which ones should be ignored. With this purpose he performed the following exercise: for a definite period of time he analyzed a position, and then he wrote down the variations he had thought of. He then compared his notes with the available commentaries or with the continuation of the game. After repeating this experiment a few times he found that some of the variations he had looked at were useless. He took special note of the faulty variations, drew comparsions and gradually came to percieve in what way he was wasting his mental efforts. The repetition of these exercises with varied material developed the future Grandmaster's feel for the useful and the useless, which is a chess player's compass in the ocean of possible variations.

Such training assists the development of economical and logical thinking and of the faculty of deciding on the main ideas of the moment.

Kotov's third "plank" was to perform exercises to develop his speed of calculation. He set himself a complicated tactical position and in twenty to thirty minutes he had to untangle the complex variations. The thinking time he allowed himself for positions of about equal complexity was gradually shortened. Of course he checked thoroughly the quality of his analysis.

This training in intensive thinking in chess gave good results.

In summary I would like to say that the method of preparation described by Kotov is relevant even today. It seems to me that the exercises he suggests are so difficult that actual play will seem much easier after them. In any case Kotov, very aptly noted the expediency of those forms of self preparation which combine the study of chess with the training of the willpower, thinking and character of a chessplayer.

I got to know Kotov fifteen years after the appearance of that article. While watching his play one never saw a mistake in tactical calculation or an excessively abstract approach to assessing the position: he seems to have

succeeded in eliminating those particular shortcomings. By the way, I should like to observe that a comparison of the different periods in a chess player's career can tell one a great deal about him as a human being, about the development of his character and about his perseverance or his weak will. Kotov's chess career can serve as an example of a successful union of knowledge and will, tempered by long and arduous work.

While we are on the subject of a chess player's independent work the question arises as to whether it is better to prepare alone, with another person or in groups. I think that the most important element in attaining mastery in chess is work done by the chess player alone over the board. I am not going to deny the usefulness of collective analysis, theoretical discussions and other kinds of "shop" communication between chess players. But everything in its place. One cannot limit oneself to exchanging opinions: one must first form those opinions.

The opinions a chess player holds are formed mainly in his workshop, when he is working on his own over the board. It is true that in such circumstances the critical eye of the opponent is absent but nor is there any risk of being influenced by somebody else's ideas, and the distraction of attention unavoidable at other times does not arise either. To stop at this point would be premature, needless to say, for one's conclusions would then be far too subjective. For this reason it is useful to compare notes with other chess players. It could be at a team meeting, at a meeting with one's trainer or just during a friendly chat over analysis with another player: it all depends whether it is during a competition or during one's preparations. The main thing is that one's personal work should get some criticism from somebody else.

This opinion is strengthened by the experience of training for tournaments and matches. During the European Team Championship in 1965 in Hamburg, for example, before each game we used to come to the team trainer Boleslavsky with some prepared suggestions: he approved or vetoed them. When Lein once tried to engage him in a detailed analysis of an opening variation which was new to him, he was told that he should have done it in Leningrad.

The proper proportion of the individual and the collective in analysis depends of course on the person concerned. It is necessary to discuss the matter, however, because there is hardly a sphere in a chessplayer's preparatory work where the question does not arise.

One very important instance is the effective organization of adjournment analysis: after all, the adjourned game may have to be played off in a day or two or even the next day!

I have often witnessed a few participants analysing an adjourned position together. Arguments, with hands flashing over the board, go on for hours, and the mistakes are still there. The interested party—the chess player who has adjourned the game—is tossed from one suggestion to the next like a fragile

boat in a stormy sea. There is no shortage of advice or suggestions; the position seems to be getting a thorough polishing on all sides, but at the play-off it often transpires that the most obvious ideas have not been taken into account.

Perhaps I paint too pessimistic a picture. There have been cases of collective analysis carried out excellently, but in the majority of cases the thorns outnumber the roses.

This happens because a discussion of such a nature brings together chess players of different styles and tastes, having different speeds of calculating and different ways of assessing the position. Furthermore, the concern of the parties is different; for the person who has adjourned the game the position is a question of "life and death", whereas for the others it is chance to argue. As a result everybody pulls the cart to his own side and the system and logic of the analysis is disturbed. It appears that in chess, just as in art, it is difficult to find the likes of Ilf and Petrov or the Kukryniks, who can work harmoniously together.*

Experience shows that one does better to analyze the position on one's own, and then subsequently check one's conclusions with somebody. Korchnoy's statement on the subject is interesting. He said that it was most important to learn to analyze in solitude, even though it took up more time. Joint analysis is not sufficiently deep and often leads to superficial assessments. It is not fortuitous that even in World Championship matches mistakes in the play-off are quite common. This is due to joint analysis with "seconds". On several occasions during the finals of the USSR Championship my trainer has been Grandmaster Lilienthal. He immediately suggested dealing with adjourned games in the following way: each of us should analyze the game separately and the next day compare conclusions. We observed this system strictly and I must admit we did not make all that many mistakes.

While we are talking about self-appraisal on the part of a chess player I would like to mention some further methods.

Firstly, a few words on stop-watches. Yes, do not be surprised! That is the next item on the agenda.

Fifteen years ago chess players were very intrigued by Bronstein's purchase of two of these devices. People were making all kinds of wild surmise about it, but it transpired that the Moscovite Grandmaster had bought them, not in order to attend athletic competitions, but for use in tournament halls. He started measuring the time used by chessplayers to think over each move. At the beginning this exercise evoked smiles, but later Bronstein even had some followers. It is true there was no great run on the shops selling precision instruments, but Grandmaster Antoshin and several other masters began to

*Translator's note: Ilf and Petrov were Soviet writers who wrote a number of successful books together; Kukryniksy is the name under which three Soviet caricaturists publish their joint work.

note the time used up for each move on their score-sheets. There is no doubt that the practice has some value. Such timing allows one to see which moments in the game demanded more thought, and when and under what circumstances mistakes were made. It is a valuable auxiliary device for studying one's own work and seeing one's own shortcomings and strong points.

It was not without reason that the newspaper "Izvestia", whose chess editor is Grandmaster Bronstein, was the first to give, along with the published game, the time used up in thinking over the moves by each of the opponents.

Following Bronstein and Antoshin I decided to time my thinking as well. I soon noticed a curious feature which I had not percieved before: I used significantly less time in thinking between the tenth and twentieth moves than between the twentieth and twenty-fifth. And it was not as if there was no need to think at the earlier stage: as a rule it is somewhere between the fifteenth and twentieth moves that the general plan of the forthcoming battle is laid.

In fact I used to "rush through" this important phase of the game, carried on by opening momentum, often making a mistake or committing some inaccuracy and getting nowhere. Then, suddenly coming to, I would immerse myself too late in an analysis of the position.

Precise measurement also helped me to understand what was better and what worse for me as White in the King's Indian. I used to play three systems against the King's Indian Defence and I could not make up my mind which one to choose, although I understood that I had to opt for one of them for practical reasons: one cannot be a master of all systems. I came to the conclusion that in one of the systems, say, system **A**, my allocation of time to the moves of the opening and middle-game was more even than in the systems **B** and **C**. The natural conclusion to draw was that the character of the strategic ideas in system **A** was closer to my nature than that of the others. I began to use system **A** against the King's Indian Defence more often and suddenly I became convinced of its attractiveness for my style of play.

I am not claiming to have proved a great deal with these examples. I simply want to point out that chess clocks are not only for determining when the flag falls or for playing lightning games. Watching the clock can help one to understand better what is going on in the game itself, when one has to hurry and when haste is undesirable.

In order to sort out the strong and weak points of one's game it is useful to listen to other people's opinions. "I know that I am liable to error and I often make mistakes. I will not be angry with the person who in such cases warns me and points out my mistakes to me." With these words Tzar Peter 1st showed a commendable attitude on this point. If a chessplayer wants to perfect himself and make progress, then the opinion of others is a valuable help for him.

I would like to quote two instances which made me reconsider my chess

conceptions to some extent. In 1952 I got my master title and for a few years after that I played at a fairly constant level: I took the middle places in master tournaments and I was far from qualifying for the finals of the national championship. During one analysis with Korchnoy I was surprised to hear him say that I conducted the game well when I and my opponent were attacking on opposite flanks. I thought deeply over his words and then I started studying instances of such games and, in consequence of Korchnoy's observations, I gradually introduced into my repertoire some "flat out" variations in the Sicilian, Ruy Lopez and other openings for White. The results proved favourable. By an irony of fate I managed to win a game of precisely that nature against Korchnoy himself in the semi-finals of the USSR Championship in 1956. It seems that the advice of the Leningrad Grandmaster influenced the development of my "chess self-consciousness" in a definite way. In the second instance I am again indebted to Korchnoy. He once made the seemingly trifling remark: "You play badly when there are no open lines." At once I intuitively realized the correctness of his judgement: I truly could not bear rather cramped, unclear positions in which the battle was going on over the whole of the board. That is why I often got mixed up in the complicated labrynths of the pawn barriers of the Chigorin Variation of the Ruy Lopez, in the King's Indian Defence and in other positions which required fighting on the whole of the front.

I started working on correcting this failing in my chess. How successfully I managed it is, of course, difficult to tell, but I often remember Korchnoy's remark when I am planning my next move in a game, I am more vigilant in positions where the battle embraces the whole of the board and I open up lines for my major pieces with more confidence.

It often happens, regrettably enough, that journalists come to characterize a player by some stock phrase which sticks to him for years. This can delude the player concerned. Criticism of chess activity can be useful if it takes cognisance of a chess player's development and points out the novelties (good or bad) which appear in his game.

I was once labelled as a connoisseur of opening theory. Some time ago, during the period of my first steps in the world of serious competion, that label was more or less justified. Later, however, it did me some dis-service. Having got used to the reputation of being an expert I abandoned the study of opening theory and I soon lagged behind many of my colleagues.

For a better understanding of one's own game and the games of other players it is important to be observant in seeing chess and psychological details which at a first glance look unimportant or peripheral. In this respect Botvinnik has a very keen insight. On the basis of observed facts of behaviour, chess habits, inclinations and antipathies, the Ex-World Champion is so good at forming pictures of the character of his opponents that he can often guess their plans

accurately in advance!

Korchnoy has also proved himself to be a subtle psychologist. He noticed that Tal had faith in variations with which he had won and very rarely checked them. Korchnoy found an improvement in the variation of the Sicilian Defence with which Tal had beaten Larsen in the 1958 Interzonal Tournament. The use to which he put it is explained in the following anecdote, told by Vasiliev.

"During the 26th USSR Championship, Bronstein said to Korchnoy: 'You know most of anyone about Tal. What would you play against him as Black?' Korchnoy replied: 'Look at this improvement I have found in the Sicilian.' Bronstein smiled in a distrustful manner and asked: 'What if he plays something else?' Korchnoy just shrugged his shoulders.

Bronstein chose a different variation and Korchnoy had a chance to test the correctness of his judgement himself. To Bronstein's surprise everything went exactly as Korchnoy had foreseen. Tal realized too late that he had been taken for a ride, and he had to admit defeat."

Inferences can be correct, then, if they are supported by a sufficiently wide range of facts. One cannot, however, generalize on the grounds of a random choice from one's opponenent's games or of particular manifestations of his emotional state.

Averbakh recalled once that during his preparations to play the Hungarian Grandmaster Barcza he had around twenty of his opponent's games at his disposal. They were from different competitions and almost all were won by Barcza. His opinion of his opponent's strength was therefore exaggerated and the impression he was able to form of his opening style was clearly inadequate.

Now just a few words to conclude this part of our discussion.

Once a chessplayer begins to understand how far from perfection his game is, and perceives the necessity of learning from others, he has made the first important step on the road to mastery in chess. Not only victories, but failures and disappointments lie before him. But his chess fortunes are now in his own hands. Much will depend on his capacity for hard work, his modesty and ambition to search independantly. But if a chessplayer perseveres until he reaches the goals at which he is aiming, he will be richly rewarded: there is an incomparable feeling of satisfaction in creating something new and setting it before the world.

The Psychological Duel.

Two people sit over the chess board: the measured ticking of the clock and the harmless movement of pieces is all one sees. On the surface this idyllic scene has little in common with uncompromising battle, with battle to the bitter end.

Such an impression is mistaken. Of course, there is no shooting on the battle-field of chess, but it is always a tense, not a peaceful, collision of two

personalities, of two characters and intellects.

Smyslov wrote: "I saw in chess an interesting sphere of creative ideas built on the opposing volitions of the two players." Lasker was more direct: "In chess there are elements of science and of art, but both of these are subordinate to one main thing—the struggle."

Thus, the main thing is the struggle! Moreover, it is a struggle in the highest sphere of the human being—that of intellect and thought. If we accept this belief it will inevitably bring to mind parallels from other realms of activity—say those of a general, an intelligence officer or a diplomat. Was not Kutuzov's* every act a bitter duel with the will, way of thinking and character of his enemies?

We shall not demand too much from chess. Just as one cannot equate the richness and diversity of life with the moves of wooden pieces on a board, so can one only conditionally compare military strategy with the planning of chess operations.

Nevertheless, chess is a touch-stone and a sort of firing ground for the training of a man's creative thinking. Lenin recognized this when he called chess the "gymnastics of the brain."

As we have said earlier, the struggle in a game is a collision of two characters. The psychological task of each opponent is to impose his will on the other and make him reckon with alien ideas and plans.

For success in this goal it is important to know the strong and the weak points of one's opponent. Some like a sharp combinative game and prefer the attack above all else, regarding positional plans as secondary. Playing such opponents it is a good idea to reduce the pace of their attack, to extinguish their initiative and lead the game into a calm, controllable flow.

Flohr, for example, successfully "blockaded" the temperamental Mikenas in their match in 1938. The score was an unusual one for the peaceful Flohr: 8-2!

Others are quite the reverse and prefer a defensive battle with great respect for material values. In such cases it is a good thing to drag one's opponent out of his "fortified position" on to an open field, perhaps even tempting him with a sacrifice which is not quite correct. Something rather like this happened in 1965 during the Candidates' match between Larsen and Ivkov. The cunning Dane managed to lure Ivkov out from his ramparts. It would be easy to continue with more examples. I think any chessplayer will be able to recall more than one such case from his own experience.

These examples do not contradict what I said earlier about the necessity of paying due regard to one's own weak and strong points during preparation. All I want to stress here is that one has to try to use one's own trumps in

* Kutuzov was the Field-Marshal who drove Napoleon out of Russia.

circumstances which are the most unpleasant for the opponent.

It happens that in games between opponents of approximately equal strength, one systematically beats the other. In such cases people remark that: "He cannot stand the opponent".

Tal, for example, used to lose consistently to Korchnoy and Fischer to Geller. Some years ago the opponent I feared most was the Kiev master Ratner, who always beat me. Unfortunately I cannot take revenge any more because Ratner has recently retired from tournament play. The picture is, however, quite different with my old friend from the days of junior competitions, Lutikov. The score of our games is approximately as follows: I have won five games and the remaining six have been drawn.

This, of course, does not reflect the real relative strength of these players, but it is explainable psychologically. After losing once or twice, the loser feels uncertain or even doomed; this paralyzes his will and his concentration falls sharply. The more impressionable the player the more habitual his losing to his "bogey" opponent becomes.

It is interesting that the above-mentioned relationship occurs between people of very different characters and styles of play. One can list such pairs as: Korchnoy-Tal, Boleslavsky-Kotov and Nei-Stein (where the first named of the pair is on the winning side). It is probable that once one finds oneself in such a state of psychological subjection it is particularly difficult to put up a fight against play which is alien to one's style and for that reason especially unpleasant.

In my opinion such psychological subjection arises owing to the fact that one of the opponents intuitively or consciously perceives the weaknesses and strengths of the other especially well.

Sometimes one-sided psychological pressure applies only to games played with certain coloured pieces. The significance of the right to move first in modern chess is great. The point of this advantage lies not in the admission of the thesis "White to play and win", but in that having the privilege of the first move it is easier to create a position in accordance with one's own taste, and consequently to impose, at least to a cetain degree, on one's opponent a game which is pleasant for oneself.

For several years the games between Korchnoy and Suetin have ended in the same result: White has won, and the score stands at 6-6! Perhaps the white pieces in chess correspond to the notion of the "home ground", to which so much significance is attached in football.

Successful exploitation of psychological points in a chess player's preparation is not a simple matter. It requires not only a good understanding of the character of one's play, but skill in decoding the individuality of one's opponent's style.

A narrow-minded person (for example, one who regards opening theory as merely a collection of variations) can hardly cope with such a task. The application of a psychological approach requires a high level of development of both general and chess culture, as well as of logical thinking.

I will now try to analyze some of the methods of waging the psychological struggle in chess.

When competing against an aggressive player with an attacking style it is important to bring his attack to a halt and take the initiative from him. He will then start playing less confidently, being obliged to pay proper attention to his opponent's threats.

At the Chigorin Memorial Tournament, Sochi 1964, things went well for me. In the eleventh round I beat the Slovak master Ujtelky, after which I had 8½ points. I needed to get another 1½ out of 4 for the Grandmaster norm. I was not, however, very confident of getting it, because on the last day I had to play Spassky with black, and my other opponents, Gheorghiu (Rumania), Matulovic (Yugoslavia) and Forintos (Hungary), were obviously "bloodthirsty" towards the finish.

I was particularly excited over my game against the Rumanian player. We first met in 1957 at the time of an international tournament in Ploesti. A thin modest boy of thirteen was pointed out to me, for whom a great future was predicted. In Ploesti we played a proper game as well as a few lightning games.

In the intervening seven years the boy had grown up in appearance and as a chessplayer. He had become the World Junior Champion and had won several Rumanian Championships. Now his play was very optimistic and erudite. He was very sure of himself and enjoyed expressing his opinion on the most controversial positions.

I thus had to face the chess and psychological pressure of a young, ambitious and talented opponent. My difficult mental state was furthermore complcated by the fact that I would be happy with a draw. The fear of risk in a moment when I could lose everything through a single move made me think I should enclose myself in a fort and not seek an active game. This mood stayed with me until the last few hours before the round, when the recollection of similar instances in my past experience induced me to change my decision. I realized that my opponent was counting on my passivity, and would moreover play all the more strongly for having a moral advantage over me. I therefore resolved to face my opponent not with timidity but with boldness, and to struggle for the initiative from the very first moves.

Krogius-Gheorghiu Sicilian Defence

1 P-K4 P-QB4 2 N-KB3 P-Q3 3 P-Q4 P×P 4 N×P N-KB3 5 N-QB3 P-QR3 6 B-K2 P-K3 7 O-O Q-B2 8 P-B4 B-K2 9 Q-K1

I tried to appear confident, to show that I was not afraid of the difficult battle and that I was ready to plunge boldly in. I intentionally made my last move quickly, so that Gheorghiu would not doubt my willingness to sacrifice a pawn after 9...Q-N3. I had the impression that my opponent did not expect to meet a battle of such a nature. He frowned and looked at the board with a suggestion of disappointment in his expression. I should incidentally point out that a player's outward behaviour during a game is of great importance for the psychological duel.

A chess player's appearance is sometimes a precise barometer of his condition of confidence or depression. One should not, however, forget that conclusions based only on impressions are often wrong. After all, behaviour is secondary; the decisive role is played by the class and strength of the chessplayer. Let us return to the game:

9...N-B3 10 B-K3 B-Q2 11 Q-N3 P-KN3

I was expecting something like this. By playing 11...P-KN3, Black rejects the stable, but fairly passive, position with K-side castling which looks the most natural, and instead he launches a dubious pawn attack on the K-side, trying to snatch the initiative at all costs. Now I was faced with a new, this time more concrete, psychological task: to take some measures against the cavalry charge of the black pieces, and simultaneously to quietly prepare my forces for the culminating combat in the centre.

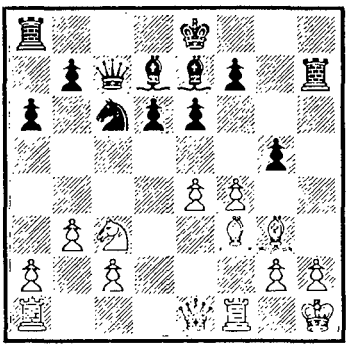
12 K-R1 P-KR4 13 Q-K1 P-R5 14 B-B3 N-KR4 15 N(Q4)-K2 N-R4 16 B-Q4

This manoeuvre is based on precise calculation, for at first sight it looks illogical in that it helps Black to double his rooks. Although here I am intentionally stressing psychological and general considerations in my commentary, one should not jump to the conclusion that this alone determines the outcome of the battle. The tactical side of chess and the concrete calculation of variations are the real ground on which psychological and general considerations stand. We cannot really say that up to the fifteenth move it was all psychology, and after that strategy and finally, according to schedule, tactics. All the time, at every moment of the game there is an indissoluble unity between the general assessment of the position, concrete calculation and the feelings and character of the person who is making these assessments and calculations.

16...R-KR2 17 P-QN3 N-QB3 18 B-B2 N-N6ch

Not satisfied with the course of events on the board Gheorghiu hurries to force the game. He should have given preference to 18...P-KN4, so that after 19 P×P the square K4 is secured for him.

19 N×N P×N 20 B×P P-KN4



Too late!

21 P-K5!

The decisive break-through.

21...P×BP 22 P×P! B×P

If 22...P×B, then 23 Q×NP and because of the threat of check Black loses. That is how the unfortunate placing of Black's KR influences events.

23 N-Q5 O-O-O 24 N×Q P×B 25 P-KR3 B×N 26 R-Q1 R(Q1)-R1 27 R×B K×R 28 B×Nch K×B 29 Q-K4ch K-N3 30 Q-Q4ch K-B3 31 R-B3 P-N4 32 Q-R7 R×Pch 33 P×R R×Pch 34 K-N2 R-R7ch 35 K-B1 R-R8ch 36 K-K2 R-R7ch 37 K-Q3 P-N7 38 R×P B-N3 39 Q-N7ch K-B4 40 P-N4ch Resigns

The main reason for Black's defeat seems to have been his confusion caused by the unexpected character of the game, which led to impulsive play on his part. The ambition to take the initiative from an active, attacking player turned out to be justified on this occasion.

A classic example of subtle psychological preparation for a battle against a player of a sharply combinative, aggressive nature is the Botvinnik-Tal return match. In this contest Botvinnik was successful in repressing the fighting thrusts of the Latvian. One gets the impression that Botvinnik's chief concern at every move was to prevent Tal from getting the initiative. He sometimes rejected a tempting and perhaps objectively even rather stronger continuation in favour of positions in which the brilliant combinative talent of his opponent had no scope.

Let me quote the opening of the first game of this match with notes by Bronstein.

Botvinnik-Tal Nimzo-Indian Defence

1 P-QB4 N-KB3 2 N-QB3 P-K3 3 P-Q4 B-N5 4 P-K3 O-O 5 B-Q3 P-Q4 6 P-QR3!!

"With this move Botvinnik revealed his plan of battle against Tal. . .In the struggle between Botvinnik and Tal one tried to entice his opponent into complications, while the other aimed at hard logical strategy.

"Botvinnik's sixth move conveys the message: 'come out my friend, come out. I have no intention of chasing the ghosts of opening advantage and playing in darkness. . .' "

6...P×P 7 B×BP B-Q3 8 N-B3 N-B3 9 N-QN5 P-K4 10 N×B Q×N 11 P×P Q×Qch

This led to a roughly equal endgame in which Tal's imagination was limited by the simplicity of the position. After a number of mistakes he lost the game.

A deep psychological appreciation of his opponent together with a wise choice of opening repertoire and other factors brought Botvinnik a well-deserved victory in the match. Botvinnik's experience was used and developed by Spassky and his trainer Bondarevsky in preparation for a match against the same opponent in Tbilisi, 1965

Quite rightly they also decided that the battle should be fought under the slogan: "At all costs Tal must not take the initiative." Taking into account the fact that the Rigan is particularly dangerous with white, Spassky and Bondarevsky worked out in detail the gambit variation of the Ruy Lopez known as the Marshall Attack. In this variation Black sacrifices a pawn and makes his opponent defend. White has to worry about the safety of his own king and only after he has gone through many trials can he start thinking of utilizing his extra pawn in the endgame. Such a game is not to Tal's liking. As I said earlier, I used the Marshall Attack against Tal in 1962, and my choice was probably psychologically correct I was not very well acquainted with all the subtleties of the opening and lost. Spassky, on the other hand, prepared the Marshall Attack excellently.

It is interesting that this choice was a great surprise to Tal. When he was told that he could expect this opening from Spassky he said: "He will not play it against me!"

Let us have a look how the struggle developed in the games in which the Marshall Attack was played:

FIRST GAME On the eighteenth move Black (Spassky) found a strong continuation. White had to give the pawn back and after a lively endgame a draw was agreed.

FIFTH GAME. Being afraid of surprises Tal exchanged his main attacking piece—the white-squared bishop. In the endgame White had an extra pawn, but it was difficult (if at all possible) for him to turn it to advantage because of his opponent's strong bishops. In the technical stage of the game White could not find any winning chances. Draw!

SEVENTH GAME. This went the same way as the fifth game up to the eighteenth move. Again a boring endgame for the Rigan and again a draw.

We can see how Tal's whirlwind attacks were deflated by a successfully chosen psychological weapon. The three Marshall Attacks seem to have played a significant role in the outcome of the match by shaking Tal's confidence. In the ninth and eleventh games he was the first to turn off the "high road" of the Ruy Lopez to other lines which he used to play only rarely. This brought him no joy either.

The psychological duel can develop in other ways, not necessarily in the struggle for the initiative. Some chess players prefer to be fired at and try to entice their opponent's attacking forces onward.

In the history of the USSR one heroic page is devoted to the battle on the frozen Chudsky lake. The reader will remember how wisely Alexander Nevsky planned the battle. The heavily armoured enemy launched the attack formed into a wedge of iron; in the centre the Russians retreated, offering little fight. The triumphant enemies, thinking that victory was at hand, advanced towards the Novgorod forces' camp, forgetting all else but their prey. But what happened? The charge ground to a halt, while the fresh divisions of the Russian army on the flanks closed in an iron ring around the enemy. The battle was decided, and before long trumpets were announcing the defeat of the invader.

When I watch our eminent Grandmaster Korchnoy I am often reminded of the skill of Alexander Nevsky. When he commands the chess battle he likes allowing his opponent to come at him, then tiring him out in a defensive struggle and eventually finishing him off with a well-prepared, energetic counter-attack.

This method has been well summed up by the famous journalist, Vasiliev, who often writes about chess: "The readiness with which Korchnoy makes concessions to his opponent is the readiness of the spring to be squeezed. While allowing his opponent to take vital space and handing him the initiative Korchnoy quietly, little by little, prepares the blow. Korchnoy's real element, the element in which he has no equal, is the counter-attack."

Korchnoy's game against Nezhmetdinov from the 26th USSR Championship in Tbilisi (1956) is especially noteworthy in this respect. Playing the French Defence as Black, Korchnoy accepted the sacrifice of a seemingly "poisoned" pawn.

By the way, respect for the value of material is very typical for chess players of this style. They willingly accept gifts, but for their part prefer to sacrifice . . . other people's pieces. And what pawns Korchnoy takes! One is sometimes horrified at his pawn-gobbling! One looks again a little later and sees that he is still alive; the game hangs by the thread, but in most cases the thread proves to be quite strong.

Let us, however, return to the tournament in Tbilisi. Nezhmedtinov's pieces

were ready for the siege: his rooks were occupying the central files and his long-range bishops had begun firing over the whole board. Nevertheless, hidden defensive resources were found move after move. Time after time the skilful hand of Korchnoy erected new obstacles on the path of White's attack. Nezhmedtinov slowed down somewhere and lo and behold! his opponent's strength was gathered and ready for the counter-attack.

Nezhmedtinov, however, was still under the impression that he had the advantage. The psychology of such a mood is obvious: it is very difficult to read just in the middle of the battle and catch that moment when the tide has turned against you. He was still trying to find active play in a position where he should have been thinking about defence. The *denouement* came quickly. As if by magic the black pieces sprang into life and routed the enemy: Korchnoy won.

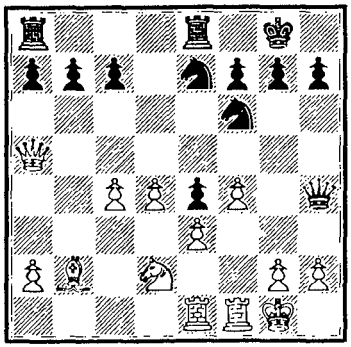
If the chess content of such a method of play is reliance on the counter-attack, the psychological idea behind this enticement is as follows: the opponent gradually loses his critical estimate of the position and guardedness is swamped by euphoria, so that the process of objective thinking is disrupted.

Of course enticement does not always lead to a fatal breach of the opponent's objectivity. Whether this happens or not depends on the individual traits of the personality and the strength of character of the player concerned.

On the other hand the spring cannot be squeezed indefinitely; it can break. This method of enticement has a limited field of application, since in each position there is a certain boundary beyond which it is impossible to retreat without inevitable defeat.

For the player who uses this method it is important to see clearly how far he can afford to give way without risking loss. The sense of danger which allows one to foresee the hidden possibilities of a position serves this purpose. A sense of danger is based on the ability to assess a position correctly and to recognize small, almost imperceptible intuitive psychological factors.

A chessplayer who favours the method of enticement must search in every position for exceptions to the general rules rather than relying on the principles of strategy. A successful counter-attack or a surprising coup often materialize thanks to the originality and unusualness of a position on the board.



This position is from the game Lisitsin-Tolush, semi-final of the 11th USSR Championship, Leningrad 1938. Here is what Romanovsky wrote about this game: "Lisitsin shared his rosy hopes with me: 'I cannot understand the play of my opponent: he has given me the centre and now he is going to lose a pawn, because if he tries to defend his little pawn on QB2 I shall surprise him with Q-KN5'.

"I looked at Tolush, who was deeply absorbed, with a certain compassion. But when I looked at the position a few moves later, alas! It was Tolush who was smiling, having won the exchange." Here is what happened:

18...P-KR3! 19 Q×BP N-B4 20 P-KR3 If 20 R-K2, then 20...N-N5. **20...N-N6** and White lost his rook in exchange for the knight, because if 21 R-B2 then 21...N-N5.

Lisitsin's optimism before Black's eighteenth move was based on a routine assessment of the position: the centre, pressure on the Q-side, the tricky position of the black knights which stood ready to storm the white king's palace.

The method of enticement can give rise to fireworks in games where both players need a win. Two days before the end of the 22nd USSR Championship, Moscow 1955, Ilivitsky and I were discussing the chances of the participants. The situation was as follows: Ilivitsky needed to beat Smyslov and Furman in order to get into the Interzonal. His opponents were also desperate for victory: Smyslov in order to win the championship and Furman to get into the Interzonal instead of Ilivitsky.

Ilivitsky was in quite an optimistic mood: he very much hoped for the best. I expressed doubts, saying that it was dangerous to play for win against opponents like Smyslov and Furman, it being a difficult task at the best of times. I got a surprising answer: "My chances lie precisely in the fact that they want to beat me more than I want to beat them."

Paradoxical, isn't it?

I did not take Ilivitsky's words seriously, of course, so you can imagine my surprise when everything went according to his scenario. Both Smyslov and Furman over-estimated their positions, played aggressively without much justification and both lost. And the cunning master from Sverdlovsk set off for Sweden to play in the Interzonal Tournament with the strongest players of the world.

What inference can we draw from this episode? Should one want to win less in order to win? The answer is, of course, no. One can and must *want* to achieve victory.

The success of the master from the Urals is explicable not by the fact that his drive for victory was less, but that he managed to preserve objectivity and calmness all the way through, unlike his opponents. He had also noticed that some participants of the tournament underestimated his real strength and as a result played recklessly against him. That is how Keres suffered, for example: he tried to win a drawn position. Ilivitsky made good use of these circumstances in the decisive games at the finish.

During the RSFSR Championship in 1960 my third game, against Terentiev, was adjourned in a position which was described as a dead draw. Whoever tried to win it would inevitably have lost. Both of us wanted to win very much: if I won I would get into the USSR finals and if my opponent did he would fulfil the master norm. As it transpired later both of us hoped that the other would play for a win: "It is more important for him, so he will try to win and will lose," each reasoned of the other. In the end, to our mutal regret, the game finished in a draw. We were disappointed, but there was nothing we could do about it.

Along with the types of psychological duel described above there is also the method of camouflage. What does this mean? It means that behind apparently harmless manouvering a decisive siege is being prepared or, in the opposite case, sharp and aggressive play is used to create a psychological state in which the opponent thinks he has no time for such trifles as weak points or squares, after which the game is cunningly steered into calm and sober channels, where microscopic advantages can be exploited.

Another variation on this theme is to make a demonstration on one flank to distract one's opponent's attention while the main strength of one's forces actually enters the battle at another part of the board.

Classic examples of the successful use of camouflage are to be found in many of Emanuel Lasker's games. Among the most notable is his victory over Capablanca in the International Tournament in St. Petersburg in 1914. Lasker, who was 1½ points behind the leader and who might have been expected to try a sharp line in an attempt to win, chose the harmless Exchange Variation of the Ruy Lopez. Lulled by his opponent's apparently peaceable disposition and assuming that he had reconciled himself to abandoning the struggle for first

place, Capablanca played passively and through carelessness found himself in a difficult position. Lasker turned his advantage to victory with relentless accuracy: it was not only a chess victory, but a psychological one as well.

In the game Ivkov-Smyslov from the Capablanca Memorial Tournament, Havana 1965, the opening did not suggest a tense struggle. Here are the first few moves:

1 P-Q4 P-Q4 2 P-QB4 P-QB3 3 P×P P×P 4 N-QB3 N-QB3 5 N-B3 N-B3 6 B-B4 P-K3 7 P-K3 B-Q3 8 B×B Q×B 9 B-Q3 O-O 10 O-O B-Q2 11 R-B1 QR-B1 12 P-QR3 P-QR3 13 B-N1

The Exchange Variation played by White is not very promising and is often a sign of the desire to negotiate a peace treaty. That is how Smyslov seems to have understood it. Feeling that perhaps he ought to make a few more moves before agreeing the draw, he carried out the first manoeuvre that came into his head.

13...N-QR4? 14 N-K5 N-B5 15 N×N R×N 16 P-K4!

It transpires that 16...P×P 17 N×P R×R 18 N×Nch P×N 19 Q-N4ch leads to an advantage for White.

16...Q-B5 17 P-KN3 Q-N5 18 P-B3 Q-R4 19 P-K5 N-K1 20 B-Q3 R-B1 21 P-B4 Q×Q 22 R(KB1)×Q N-B2 23 K-B2

White has obvious positional advantage. Just look how the position has changed in the last five or six moves! Ivkov's seeming listlessness has all of a sudden disappeared. By taking advantage of his opponent's good will he has managed to obtain good winning chances. On the 59th move the game finished in a win for the Yugoslav Grandmaster.

It is not difficult to see that there is a good deal in common between enticement and camouflage. One cannot, however, put an equality sign between the two. In the first method one draws fire on oneself, provoking one's opponent into the attack in the hope that the success of his action will make him lose balance, whereas in the second method drawish play is used to lull one's opponent's aggressive intentions. The straightforward nature of the game makes him forget his vigilance in a sweet dream of well-being. In consequence the correctness and accuracy of his thinking are blunted for a certain period, he makes a few indifferent second best moves, and these are immediately exploited by his underhand, wide-awake opponent.

CHAPTER 11
Emotions in Chess

"Chess is a quiet occupation; it is not like working in a factory,"—an engineer once said to me. As was soon evident, my interlocutor was not very familiar with chess; still, it is worth while discussing his opinion.

It is difficult sometimes for an outsider to imagine the storm of emotions which goes on in a chessplayer while he is at the board. True, there are some things which are visible to the naked eye: Mark Taimanov, for instance, moves quickly about the stage, making short paces, while his face shows a whole scale of emotions: expectation, distrust, resolution and sometimes fear. At the same time we hear Suetin coughing; medicine, however, will not help in his case—everybody knows: there is a particularly tense moment in the Grandmaster's game. Sometimes one can judge a player's position better from his facial expression and gesticulations than by looking at the demonstration board.

All records of excitability were beaten by one Moscow player. In normal conditions he is a lively person, full of control over his behaviour. Among his colleagues at the Institute where he works he has a reputation for precision and self-control. At the chess board, however, he is unrecognizable! Once during a time scramble he became so excited when his opponent made an unexpected move that he started shouting: "Controller, come here, quickly—tell me which colour am I playing?"

I can hear the reader objecting. It is true what you say, but you have not mentioned Keres, Spassky or Portisch. However hard one looks one cannot judge from their behaviour whether they like their positions or not. This opinion is also justified.

There is no contradiction in these cases. Differences in the external expression of emotions can be explained by individual idiosyncracies of character and temperament. For chessplayers are of all sorts, and they transfer their everyday manner of behaviour and habits to chess. Even the most imperturbable looking, however, also express their excitement. At one of the Candidates' Tournaments, in Switzerland in 1953, one photographer tried in vain for worth-while snaps of the more sedate players and he would probably have gone empty-handed had he not accidentally looked under the tables. The outcome of his glance was a series

of snaps published under the title: "What do the legs do when the head is at work?" It transpired that chess players' legs were doing surprising things: some slowly swayed from side to side, while some suddenly tensed up in expectation, as if preparing for a decisive jump—anything but calm.

So, excitement is a constant companion of chess battles. Is it good or bad? It is impossible to give a simple answer. Just think of the effect of a successful start to a tournament, the joy of the first victory or even a good position—such successes are very encouraging and make one feel confident and determined. Good and cheerful moods inspire that highest concentration of strength which evokes "battle ecstasy" and a strong manifestation of creative energy.

On the other hand, one can hardly forget the number of games lost because of the fear of one's opponent, confusion and lack of confidence. Tournament annals record many a tragic history where a chessplayer has completely changed after a loss and his play has become unrecognizable.

There are thus different forms of excitement. The range of human emotions is wide. Some are friends and helpers and assist us to overcome difficulties and increase our energy and ability to work; others, whom psychologists have christened, with good reason "adverse emotions", are fierce enemies of activity. This black list contains fear, lack of confidence, sorrow, apathy and so on.

When there is a lack of information.

It has been known for a long time that learning is light and ignorance is darkness [Russian proverb—Translator]. This is applied to chess when people advocate the necessity of regular planned study before competitions.

Nevertheless, knowledge obtained in the period of general preparation does not provide a sufficient amount of "light" on its own.

While participating in tournaments it is important to keep a close watch on one's opponents and make a note of the new openings they play, the quality of their preparation and their form. It is useful to make a note of the fashionable openings of the tournament, because it often happens that a particular variation recurs in the games of players one would not have suspected of being partial to that opening. The presence of concrete information about one's opponent during the period of the competition makes the struggle against him easier, helps one to attack a fighting spirit and gives one more of that optimism and confidence which is so necessary for the tense battle ahead. Such intelligence activity can enable one to play an opening novelty or a surprising variation in the opening stages of the game to great effect.

The absence of information about one's opponent in a competition makes preparation harder and leads to the appearance of doubts and hesitation.

At a number of tournaments, especially team tournaments, at the very begining when the game has just started, one can often see a trainer walking up

and down between the tables with a notepad. He is taking notes of the development of other players' games, fulfilling in this case the quite justified role of the scout in the enemy's camp. The point of this activity is in gathering information which will help to answer the question: "What can one expect from one's opponent?" Knowledge of what is to come even if it is only approximate, helps a chess player to become more businesslike and collect his thoughts.

Rokhlin has some very interesting recollections of the Lasker-Capablanca game, played in the 3rd international Moscow tournament in 1936:

"I accompanied Capa back to his hotel and we had the following conversation: 'You're playing Lasker tomorrow, aren't you?'—'Yes, I am Black. It will be a draw of course.' 'I think it's a pity you're declining to make a fight of it.' "

Rokhlin then proceeds to relate how Capablanca discussed the choice of the opening with him. He quickly rejected the moves 1...P-K4 and 1...P-K3, which had brought nothing but trouble in his previous games against Lasker. Gradually his choice fixed on the Sicilian Defence.

They looked at innovations in that opening together, but then Capablanca decided to go on with the preparation on his own.

It is difficult to guess what the Cuban's thoughts were after Rokhlin's departure. He probably did not forget to look through Lasker's games from the preceding fourteen rounds of the tournament.

Let us now make an analysis like that which thirty years ago determined Capablanca's choice of opening and tactics of play against his old enemy.

We have before us the seven games in which Lasker had the right of the first move. All of them began with the advance of the KP two squares forward—1 P-K4, so we can count on that with near certainty. The French Defence was played in four games and Alekhine's Defence in one. Capablanca comparatively rarely played these openings and besides, inspection showed that Lasker usually chose little-known, questionable continuations for which it would not have been simple to prepare in a few hours. Moreover the character of the battle which resulted from these openings probably did not appeal to Capablanca. The remaining two games were against Riumin and Ragozin, both Sicilians. Lasker won the first, but lost the second. However, it was not so much the outcome that was important as the fact that in both of these games White played the opening unassumingly and almost voluntarily handed the initiative to his opponent.

These examples doubtless suggested to Capablanca the expediency of his choice of the Sicilian.

It is possible that he also remembered Lasker's none-too-confident play throughout that tournament, particularly in positions in which delay was fatal, and decided that the Sicilian was very well suited for such a battle.

The time has come. The hall is packed and everybody is impatiently waiting

for the game between the two famous Grandmasters to start. Lasker is already sitting at the table.

Rokhlin wrote: "His lively, piercing eyes look attentively and alertly. . . Two or three minutes pass and Capa still hasn't appeared. Is it possible that he is still preparing for the game? But here he comes, charming and benign as usual. He quickly makes the first move. A Sicilian! I can hardly surpress my curiosity and excitement. What is in store in this game?. . . The moves follow quickly. Capa suddenly stands up and greets me, but does not say a word: his expression is imperturbable. After Black's ninth move, though, the Cuban persistently looks at me, catches my eye and gives the shadow of a wink. Three or four more moves are made. Capablanca is at his best; he is playing with great strength and inspiration. Even Lasker, the subtle chess psychologist, does not seem to have expected such aggression from his opponent. The struggle continues. Lasker complicates the game; he is defending stubbornly and desperately, but the consequences of Black's excellent manoeuvering are beginning to be apparent."

Capablanca won. It appears to me that special preparation before the game played a significant role in this victory. Doubts which were troubling Capablanca on the eve of the game disappeared as soon as play started. Concrete information about his opponent helped him to solve the problem of what and how to play in the forthcoming game. And the fact of having thoroughly thought out his decision raised his faith in himself and cheered and inspired him, dispelling the "dark powers" of the adverse emotions—fear, anxiety and hesitation.

Botvinnik's recollections of his decisive game against Kotov in the last round of the 11th USSR Championship, Leningrad 1939, are instructive. Before the last round the two players had an equal number of points and so victory on the last day would have meant the title of the Champion for either of them.

Naturally both of them prepared seriously for the game. After a long hesitation Botvinnik chose to play the Nimzo-Indian Defence. He had correctly guessed the direction of his opponent's preparations: "Kotov watched my play in the tournament attentively. He saw how I played the Nimzo-Indian Defence against Makagonov and noticed that with the particular order of moves I played he could turn it into a Ragozin Defence, which the theory of the time held to be to White's advantage. Kotov probably finished his analysis at this point. I, on the other hand, continued and looked through a few games in which the Ragozin Defence was played and came to the conclusion that it gave Black equal chances."

And so it happened. The Nimzo-Indian Defence soon transposed into the Ragozin Defence. Kotov gradually lost his confidence, made a mistake and then through inertia another one and, totally confused, lost the game.

Let us halt a moment at the question of the quality of the information used

during preparation. Both Botvinnik and Kotov realized the possibility of transposition into the Ragozin Defence, but treated the information differently. Botvinnik checked the up-to-date information available on the theory of that opening, whereas his opponent accepted the opinion of the reference books. Kotov had only a superficial acquaintance with the subtleties of the system which theory regarded so poorly, and in consequence he got into difficulties during the game. Evidently he came gradually to realize that the standard assessments were not very well founded, and tried to wriggle out, but in the meantime the clock was counting the valuable minutes. He became restless, lost confidence and mistakes were not long in coming.

It is unquestionable that wide knowledge and erudition are essential, but to make these the only goals of one's preparation is too one-sided.

The International Master Lisitsin said that while preparing for the 16th USSR Championship he looked through around three thousand games. He was quite successful, scoring 9½ out of 17. Chess journalists joked that "had Lisitsin looked through a couple of thousand more games he would certainly have won the first prize."

Here again we touch upon the question of the quality of one's information. Evidently effective preparation depends on observing a sensible measure and a correct proportion between quantity and quality in chess knowledge. An appropriate motto is: "win not with quantity, but with skill."

Botvinnik wrote: "For one competition it is sufficient to prepare three or four openings as White and the same number as Black, but systems have to be prepared *very well* indeed. If a master does not have such systems in his arsenal then he can hardly expect to achieve a good result".

These are considerations one should have in mind while preparing for a tournament. The variations to be prepared should be thoroughly checked in training games or analyzed with somebody. This laborious and difficult work will bear fruit. Suvorov's* motto: "the harder the training, the easier the battle" finds application in chess.

How difficult it is and how uncertain one is when one has not done sufficient theoretical preparation! I would like to quote two examples from my own experience in the Chigorin Memorial Tournaments at Sochi in 1964 and 1965.

For the first of these I was prepared satisfactorily. I studied a few openings deeply. I also analyzed my recent games and studied my future opponents. I travelled to the competition optimistically disposed and with faith in my abilities. The amount of preparatory work I had done enabled me to do relatively little preparation before each round. In many games confidence in my knowledge allowed me to overcome excitement.

I remember that even the imperturbable Spassky was discouraged when after **1 P-K4 P-K4 2 P-KB4** I quickly answered **2...N-KB3!?** He thought for about

*One of the most outstanding Russian soldiers of the 18th Century.

forty minutes and, if my observations are correct, he looked at the board with a feeling of surprise. The variation 2...N-KB3 is rarely played in competitive chess. Fifty years ago it was played in the game Chigorin-Bernstein and more recently it occurred in the game Bronstein-Bernstein. In my preparations for the tournament I considered the possibility that Spassky or somebody else might play the King's Gambit, and I carefully analyzed this half-forgotten variation and found lines which, in my opinion were quite satisfactory for Black. Together with a group of Saratov chess players I checked the analysis and came to the conclusion that it was a playable defence. With a light heart I launched on the prepared variation against my dangerous opponent.

The game went like this: **3 N-KB3 P-Q4 4 P×KP N×P 5 P-Q3 N-B4 6 B-K3 B-N5 7 P-Q4 N-K3 8 P-B4 B-N5ch 9 N-B3 P-QB4 10 P×QP Q×P 11 P×P B×KN**, and Black has attained a good position from the opening. After a tense struggle, admittedly not free from errors on either side, the game was drawn.

I think that one reason for this result was my successful preparatory work on the opening, which brought with it confidence and calmness.

At the same tournament a detailed analysis of the variation 1 P-Q4 P-Q4 2 P-QB4 P×P 3 N-KB3 N-KB3 4 P-K3 B-N5 was of good service to me (as White). This system was becoming fashionable in those days and one did not have to have too much foresight to guess that it was going to be played at the tournament. I thoroughly analyzed some of the positions of the variation and eventually chose the line with N-QB3 followed by P-K4. This way accorded best with my style of play.

The Yugoslav Damjanovic, playing Black against me, chose precisely this variation. In the end White managed to gain an advantage from the opening and, perhaps more importantly, to create a position after his own heart. After a few moves in the opening I was in a very good mood, because the position on the board was just as I wanted. I managed to win the game, and again my success was due to the "boring" homework.

Unfortunately, before the 1965 tournament I did not manage to repeat my good preparation and I arrived at the shores of the Black Sea with my old theoretical luggage. It was not, of course, a radical change of the opening repertoire that was desirable: one should handle such things with the utmost care. But some "repair" work on the systems I played was essential, for chess theory does not stand still and a lot changes in the course of a year. Naturally the reason was not that I had not read current chess literature. I quite regularly followed the news. I did not, however, work on the information and check it. I had not formed my own opinion on the theoretical innovations which had appeared over the year, not having worked on them seriously enough.

Before the tournament I was possessed with contradictory feelings. On the one hand my inner voice calmed me down: what was good a year ago would do the

trick now; but on the other hand I understood that there were many points that were clear to me before, but of which I could not now be sure.

My pessimistic prognosis fulfilled itself from the very first rounds. Right at the start I was Black against Kotkov, a master from Perm. He is known as an expert on the Ruy Lopez and Sicilian as White. Before, I would have chosen my "secret weapon"—a sharp variation in the Sicilian: 1 P-K4 P-QB4 2 N-KB3 P-Q3 3 P-Q4 PxP 4 NxP N-KB3 5 N-QB3 P-QR3 6 B-KN5 P-K3 7 P-B4 Q-N3—against him without much hesitation. I had studied this system in detail a year previously. Shortly before, however, there had been some innovations in the line and I was not prepared for it. I did not dare play such a complicated position with forced variations without being confident of my material. What could I do? I considered the Ruy Lopez, but again I was not sure of the merit of a number of systems, because I had not got round to checking them before the tournament.

The outcome of my doubts and hesitations was that I went "out of the frying pan into the fire": I decided to play the French Defence, which I hardly ever played in serious tournaments. It did not take Kotkov long to prove the superficiality of my understanding of the opening and he soon gained a considerable advantage. And it was only through luck that I was let off the hook in my opponent's time trouble and managed to draw.

Lack of confidence due to poor preliminary preparation accompanied me throughout the tournament. It was only thanks to the stubborness which I showed in defending desperately a number of, to say the least, suspicious positions that I managed not to disgrace myself and come fourth in the tournament.

Talking about the chessic and psychological significance of theoretical preparation I would like to touch on a special, but important question: that of the amount of time one should work before each round.

A single general recommendation is hardly possible here. Once again so much depends on the quality of one's preliminary preparation and of the chess player's individual habits. Nevertheless I feel I should mention some extremes still practised in competitions.

I remember team gatherings during tournaments which began early in the morning and often did not finish until just before noon. The team trainers sincerely believed that the more detailed the analysis before the round the better prepared the chess player would be for the struggle.

If it were robots who were playing then one could not dispute this belief. But since it is live people who sit at the board, such a load on their nervous system and psyche before a five-hour game is of little profit. As a rule prolonged analysis induces tiredness and apathy and blunts one's sharpness of thought during the game. Unfortunately such a regime is often adopted even by experienced masters in individual tournaments. Labour protection has not yet

reached chess enthusiasts! Botvinnik recommends twenty-five to thirty minutes' analysis before the round. And with good general preliminary preparation one does not seem to need any more training.

We have looked in detail at the role of quality and quantity of chess knowledge in getting ready for the competition and its influence on the chess player's emotional state. We shall now turn to another aspect of preparation. For a proper understanding of the state of one's opponent's emotions and will power, it is important to know about his mood, his ambitions in the game in question, what he thinks of his present tournament placing and so on.

At the 1955 Interzonal in Goteborg, Ilivitsky's game against Guimard was adjourned in a sharp position with White having two extra pawns. We analyzed the position for a long time and concluded that it was not worth Ilivitsky's risking playing for a win, because if he did the Argentinian's counter-attack could become very dangerous. At first Ilivitsky agreed with this assessment, but subsequently he changed his mind. He said that he had decided to try to win, in view of all the misfortunes which had pursued Guimard in the previous rounds and his apparent indifference, as if he had already given up the tournament which was turning out so unhappily for him.

I remember the play-off of that ill-fated game. The players were deep in thought. Ilivitsky was penetrating the Q-side, and the Argentinian drearily, seemingly without a spark of interest, stared at the position. My impression was that Guimard, with his half-closed eyes, was dozing. Ilivitsky chose an active and very committal plan. Guimard roused himself. He changed beyond recognition, his eyes became decisive, he thought for a few minutes and confidently made a move which excluded all compromise: ignoring his opponent's passed pawn the Argentinian began an attack on the white king. It was obvious that he was thirsting for battle and dreamed, at least in this game, of taking revenge for the woes other players had inflicted on him.

At that moment Ilivitsky could have stopped, looked at the position sensibly, and forced a draw, but he was probably in the grip of his preconceptions about Guimard. White's advance carried bravely on, but in a few moves it transpired that Guimard's K-side attack was unstoppable, and Ilivitsky had to resign. We went back discouraged to our hotel. "So much for your good-natured Guimard" was the thought that rotated in our heads. However, it was we who were to blame. Ilivitsky and I had analyzed Guimard's games and the openings he had played, as well as the adjourned position, but we had failed to note in time the stubbornness with which he fought in each game and which grew every time he was in difficulties. We did notice all this, but unfortunately too late: after the game.

Because of that fatal half-point the talented Ilivitsky found himself out of the World Championship Candidates' Tournament.

CHAPTER 12

Mistakes

In this chapter I shall re-iterate some of the more important points made earlier in the book.

Is it possible to play chess without mistakes? In order to answer this question it is not without interest to turn to the child's game noughts and crosses. In that game it is comparatively easy to take into account all the variations and choose the best move. At a first glance it might appear that such an operation could be carried out in chess. Here we are also dealing with finite numbers—sixty-four squares, thirty-two pieces and strict rules.

The first calculations make us think: in the initial position White can start the game with twenty possible moves: sixteen pawn moves and four knight moves. Black has the same number of possible answers. Thus, we have four hundred possibilities straight away. The further we go, the bigger the numbers get. After two moves there are 160,000 variations and after three—around 64 million.

Any experienced chess player, however, will look at these calculations with scepticism: why on earth speak of millions when anybody with the least clue about chess will discard most of the variations in advance.

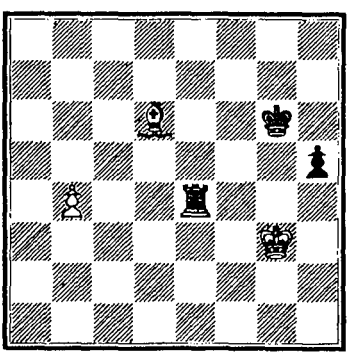
It is true: a great number of possibilities on the chess-board are merely formal, since they contradict the elementary common sense of the player. There is, however, a great number of acceptable moves; it would take a chess player years even to look briefly at those. The chess philosopher can therefore forget about this possibility with a clear conscience. The attempt to create a unique, absolutely best and flawless game is not within the capacity of a human being. And anyway, can there ever be a *chef d'oeuvre* which can never be superseded?

We are not going to enter lengthy and abstract arguments. It is obvious that Cicero's words "Man is liable to error" refer to us chess players as well. It is true that the Roman thinker continued his thoughts by adding "and it is a fool who continues in error".

It is useless to persist in the delusion of perfection on the battlefield of chess. Here, as in life, it is more useful to look at mistakes critically, trace their peculiarities, systematize them and try to limit their number as far as we can.

When one looks at this problem one notices that there are mistakes of widely differing types. Some mistakes one cannot complain about. Let us imagine the following case: in the middle of the struggle a beginner decides to force the issue and purposely goes into a pawnless ending with two knights against his opponent's lone knight. "I have him now," thinks the cavalry general, "Yesterday I won with two pawns; now it is even better: knights are stronger than pawns". But in a few moves his optimism goes, instead he becomes annoyed. It transpires that the knights are not so strong. Stalemate is possible, but mate is not. "One has to know such things", people say in cases of this sort. It is quite a justified remark. A number of mistakes are explainable precisely by the absence of a "technical minimum". Mistakes due to ignorance, like this one, are reflections of inexperience. One's attitude towards them changes. Just as one cannot expect a primary pupil to know about algebra, nor can one expect a beginner to understand such subtleties as the strength or weakness of an isolated pawn. Acquiring knowledge is a gradual process, while one's intuition develops simultaneously. One gradually ceases to see positions in terms of "This is defended, that is attacked", and with the help of consistent work one learns to make general assessments of positions.

Sometimes even the most experienced players lack essential knowledge. A striking case of this occured in the game Novotelnov-Terpugov from the 19th USSR Championship, Moscow 1951.



Black's material advantage is sufficient to win. It was important to know the winning line and in particular to know that the pawn should not advance further than R4 because it is via R5 that the black king should advance after the rook check on N5 has forced the white king on to the KB-file. Terpugov, however, cheerfully advanced his pawn to R5, making a draw inevitable. A good lesson on the ignorance of theory. How often one hears young players boasting that

they do not know any thoery. They seem to think that theory is for "swots".

It is a regrettable fact that some chess players do not keep up with the latest theoretical achievements. Even the experienced Reshevsky had to pay heavily for his ignorance in one USA Championship. Here is the game Fischer-Reshevsky, New York 1958-9. **1 P-K4 P-QB4 2 N-KB3 N-QB3 3 P-Q4 P×P 4 N×P P-KN3 5 N-QB3 B-N2 6 B-K3 N-B3 7 B-QB4 O-O 8 B-N3 N-QR4?** Not long before this game the same line had been played in the game Bastrikov-Shamkovich from the RSFSR Championship. White made good use of his opponent's mistake: 9 P-K5 N×B 10 P×N N×R 11 P×B. Commentators pointed out that 9...N-K1 was bad because of 10 B×Pch. Fischer had diligently studied Bastrikov's idea and decided to try it out. Bastrikov's second victim was thus Reshevsky himself. **9 P-K5 N-K1 10 B×Pch K×B 11 N-K6! P×N** If 11...K×N, then 12 Q-Q5ch K-B4 13 P-KN4ch with mate in a few moves. **12 Q×Q** and White won.

Mistakes due to "lack of education" are not very common, though, among top class chess players. It is quite obvious how to overcome mistakes of this type since their cause is so clear.

It is much more difficult to account for blunders which are not directly connected with the player's store of knowledge. How can one, for example, explain Chigorin's tragic blunder in his match against Steinitz, when the Russian Champion retreated the bishop which was protecting him against a mate in two? Or Petrosian's exceedingly generous gesture in the Candidates' Tournament of 1956 when he gave Bronstein a whole queen? Journalists usually have a stereotype explanation such as "nerves were to blame", "he could not stand the tension" and so on.

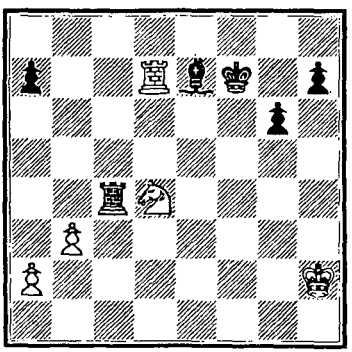
These explanations are just too general. We think that we can single out some concrete psychological factors which act as catalysts in generating mistakes in chess.

Time trouble is often blamed for blunders. But even when there is plenty of time to spare mistakes often happen. It is difficult to come to any firm conclusion about the role of time trouble in this dark business, but one cannot make a scapegoat of it. Time trouble is a fertile ground for miscalculations and inadequacies of thinking, attention, will, memory and other psychic conditions to flourish.

A few words about terminology. Alatortsev, referring to Emanuel Lasker and Tartakover, distinguishes the notions of "mistake" and "blunder". He thinks that "mistakes" are mainly made in defence and "blunders" in better positions. I think that such a division is groundless; it is difficult to see any expediency in this classification. Moreover, the reader will see later that the characteristics of mistakes in favourable and difficult positions are similar. We shall use the terms "blunder" and "mistake" synonymously.

When psychologists speak of inadequacy in the development of an independent will, they often illustrate this condition with the quality they call *suggestibility*. A person is suggestible, if he is comparatively easily influenced by others.

Here is a concrete example of a strong influence and its effect in completely paralyzing the transfer of attention. It led to a most extraordinary configuration on the chess-board. I have mentioned this amusing episode earlier. It happened in the game Ebralidze-Ragozin, 10th USSR Championship, Tbilisi 1937.



Ragozin quickly played **40...R-B2**, thinking if the rook were taken to win it back by means of checking on Q3 with the pinned (!) bishop. Ebralidze was sunk in thought. He probably saw only the fatal dark squared diagonal KR2-QN8 and the exchange of rooks, which did not look very promising. Ebralidze did not stop to think of other trifling details. In fact the black bishop is pinned, and he could have won a whole rook! But in his thoughts there was no shadow of distrust in his opponent's move: could "Ragozin himself" be mistaken? In the meantime the mood in the hall became very tense. One fan could not restrain himself and started shouting: "Archil, take the rook!" "I can see, do not interfere"—said Ebralidze. A few minutes passed. And all of a sudden White retreated his rook: **41 R-Q5??** There was an unbelievable commotion in the hall. At first Ebralidze did not understand what it was about and looked round in surprise, but then the penny dropped and he clutched his head in desperation.

The suggestion probably worked because Ebralidze, then a young player, blindly believed in the authority of his famous opponent and did not dare to think that he might have blundered away a whole rook.

Too much reverence before experience and title sometimes has a great effect on players, especially on impressionable ones, who start playing below their

usual strength.

The wonders of the game had not yet finished. After the moves: **41...B-B3 42 N-N5 R-B2ch 43 K-N3 P-QR3 44 R-Q7ch K-K1** Ebralidze was once again plunged deep in thought: then he put his rook on the fatal square B7: **45 R-B7?? B-K5ch** and **White resigned.**

The last blunder of the Georgian master was no coincidence. After Ebralidze had missed the gift of a rook from Ragozin, he became firmly convinced that check on the KR2/QN8 diagonal was impossible, however, the situation had changed and the bishop was unpinned, the check was no longer taboo and Archil lost his rook in consequence of his firm convictions. Such are the adventures one can suffer with the transfer of attention.

On both fronts.

It is said that Napoleon could do seven things at once. We cannot speculate whether this is true or not, but chess players can be very envious of the alleged ability of the general. The little chess-board is so rich in content that it is quite difficult to keep all sectors of the board under observation. Can the chess player really spread his attention over the whole of the board? While he is absorbed in the calculation of variations on the K-side is it possible for him to pay close attention to the pieces which are on the other flank?

These questions lead us to a discussion of one of the most important properties of attention: its distribution over the various aspects of an action. This is, of course, closely related to its transferability, but the two things are not identical. The distribution of attention embraces mainly the width of the cerebral process in question, while transference concerns its dynamics. Chess, like life, requires a distribution of the attention. Almost any chess player will remember cases when the long and tiring labour of encircling a weak pawn went for nothing because of some "deliberate swindle" on the other side of the board. It would therefore be quite useful to analyze the idiosyncracies of the distribution of the attention in the chess struggle.

For that reason we shall turn (do not be surprised!) to blindfold chess. Some of the specific traits of the thinking of the chess player are most clearly revealed in the blindfold game.

Alekhine wrote: "The player is not trying to visualize the whole board with black and white squares and black and white pieces (as the uninitiated generally think); what he is trying to do is to recall some characteristic move or the configuration of some part of the board, in the same way as in life we recall some familiar person, book or thing. . ."

A most important observation! In the process of thinking we isolate the most important out of a large number of images and concentrate our attention on these. The board and pieces are divided into primary and secondary regions of

action. When we speak of intense concentration in chess we should therefore visualize the main forces of thought directed towards the principal section chosen by the consciousness, while the rest of the board has merely a symbolic garrison, scarcely capable of action.

This type of thinking occurs in over-the-board play just as in blindfold chess.

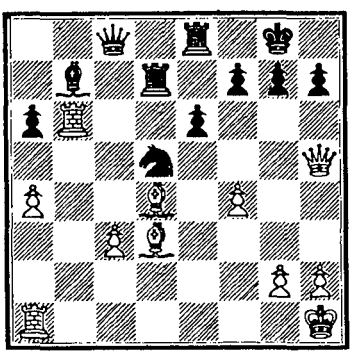
We have noticed how unevenly the chess player's concentration is distributed over the various parts of the board. He watches one section with great tension and sees every detail of it whereas he does not notice anything on the other side of the board.

Nobody wants to challenge the use of intent observation and deep concentration of the attention on a single object, but we should like to speak of the necessity of trying to distribute one's attention in accordance with the requirements of the activity in question.

The distribution of the attention in chess is particularly important when one is conducting play on both flanks. This is perhaps the most difficult thing in chess. Alekhine's ability to conduct the game over the whole of the board is well known, but there are plenty of examples of such operations proving to be beyond the strength of even the most experienced players.

Contemporary chess, which depends so heavily on the dynamic element and on a wide range of actions, is unthinkable without the development of the distribution of attention and without the ability to conduct the battle on several fronts. Unexpected moves, traps and diversionary sacrifices fall on fertile ground when attention falls short, even on a single piece.

The position in the following diagram is from the game Vidmar-Mitchell, Hastings 1925/26.



Mitchell's position is better. He only has to defend against White's transparent threat on the square KR2, but he chose a poor way of doing so. He

played **26...P-B4? 27 R×B! R×R** 27...Q×R 28 Q×R mate **28 B×RP** and Vidmar won a pawn, since 28...N×KBP fails to 29 Q-B3 N-Q4 30 P-QB4! Instead of 26...P-B4 the more modest move 26...P-R3 would have given Black a good game. Mitchell's mistake is quite understandable. In planning his next move he only took into account the "threatening mechanism" of the queen and bishop and completely forgot about the position of the white rook, which seems to have no influence on the course of the battle. Thinking along those lines 26...P-B4 and 26...P-KR3 look quite possible, so he chose the first continuation as the safer one (so that he would not have to reckon with 27 P-B5 etc.) After the move in the game the KR5-K1 diagonal was opened and the sacrifice was on. Misfortune struck from an unexpected side!

"Long" moves are often overlooked when one's attention is distributed inadequately. The surprise of "long" moves (for example, queen from R8 to B3) is easily explained if one considers that one's attention is concentrated on the mentally delineated main section of the board.

I believe that an important condition for the development of attention is education in critical thinking. To this end it is a good idea to divert oneself from one's intentions during a game, and try and think on one's opponent's behalf. Such a transfer of attention helps to regulate one's own plans and eliminate mistakes and miscalculations due to inattentiveness.

We can mention another occasion when detached self-observation worked wonders. The psychologist Platonov has related how, at a lengthy meeting, the participants could not come to any agreement. Passions ran high, but the question was still not clear. There was a short interval, after which, when everybody was keen to get on to the second round of debates, a tape recording of all the previous discussion was switched on. It was amusing to see the faces of the members listening to their own speeches, which earlier they had thought so logical and consistent. Further discussion became more businesslike. Everyone made an attempt to express their thoughts clearly and formulate their reasoning more precisely.

Simultaneous displays also make a contribution to the development of the breadth of attention. Going from one board to the other, the player has to make quick decisions taking into account the most diverse features of changing positions.

The audience often asks: "Would the master notice if one of the participants moved a piece to a different square or simply removed it from the board?" I think that an experienced player would notice the change because the logic of his plans would be disturbed. The pawns and pieces are not just a random collection of wooden objects: they are bearers of the idea of a strategic plan or tactical

operation. Their interconnections are reflected in our thinking, thanks to the breadth and distribution of attention, and the more subtle and deep these connections are, the better those qualities are developed.

Some sceptics do try and check whether this is true, whether the master does notice the cheating. It happens. One comes to a board and thinks: What on earth? The combination was all right, but now it has disappeared! One starts untangling the variations and it becomes clear that the logic of the game has been upset because of a pawn, say on Q3. One immediately questions it: how did it get there? One analyses again. Gradually one is convinced that the pawn could not have got to Q3 by honourable means and, to the laughter of the audience, one puts it back where it belongs, say Q4. From the audience at such moments one hears exclamations: "He really does remember everything!"

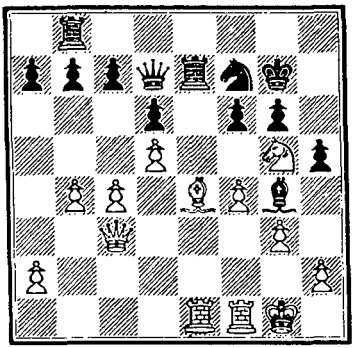
No, my dear chess lovers, the giver of a simultaneous display remembers by no means everything. I will reiterate the thought I expressed earlier: the memory stores mainly the sense of a position and its interconnections, and the fuller they are the greater is one's ability to distribute one's attention.

We have shown how important this ability is for the chess player. I should like to stress once again that the development of this property depends not only on chess training, but also on the personality as a whole. Versatility of character, diversity of interests and a high level of general education have a favourable influence on one's progress in any field and in chess in particular. The richer and the more diverse the training of one's thinking, the easier it will be to solve logical tasks over the board, and the greater the volume of problems of chess embraced.

The chain reaction.

As a rule a game of chess is not lost because of a single minor mistake. It is two or three such errors that lead to a sad end. Everybody knows the proverb: "It never rains but it pours." This proverb often applies to chess. It has been observed that one mistake in a game often provokes such depression that other "sins" come soon after. There is a sort of chain reaction, one misfortune stimulating the appearance of others.

Let us look at a position from the game Kan-Yudovich, 10th USSR Championship, Tbilisi 1937.



White's advantage is unquestionable. It remains only to finish off Black's paralyzed defence of the heavy pieces. The prosaic move 1 P-KR3 was the simplest way, but, carried away by a wrong idea, Kan played **1P-QB5?** After the obvious defensive move **1...R(N1)-K1** White made a second minor error: **2 P-B6? P×P 3 P×P Q-B1!** The position has changed and Black has hopes of a dangerous counter-attack. Such a sharp turn of events probably influenced Kan adversely and he made a third mistake, this time the decisive own goal: **4 Q-Q4 P-Q4! 5 N×N R×B 6 R×R R×R 7 Q×P R-K1** and it is time for White to resign because he is losing a knight. Yudovich accurately realized his advantage and soon won.

It is hardly credible that a first class master should systematically, step by step, ruin his position. It would be ridiculous to seek explanations in inadequate theoretical preparation or knowledge. Probably Kan, like many of us, came home after the game saying: "How on earth could I play like that?"

I think that the main reasons are psychological. How one reacts at a critical moment, whether one lets oneself be carried away or whether one pulls oneself together, depends on one's character and one's temperament. The first mistake is very often not fatal, provided one has the courage to admit one's mistake. Sometimes people lack that courage. Although the chess player begins to realize that he has made the wrong move, he subconsciously suppresses the voice of reason. False self-justification and an unwillingness to admit one's mistake lead to persisting in one's misconception. The game continues on the wrong lines and eventually comes to a grievous end.

Will-power and objectivity are the main qualities without which it is difficult to halt before a hurried move. When one wants to give an example of self-control and of a critical attitude towards oneself it is Botvinnik who springs to mind. In the semi-finals of the 11th USSR Championship, Leningrad 1938, the opening of Botvinnik's game against Ilyin-Zhenevsky did not go well for the future World

Champion. After: **1 P-K4 P-K4 2 N-KB3 N-QB3 3 B-N5 P-QR3 4 B-R4 N-B3 5 O-O B-K2 6 R-K1 P-QN4 7 B-N3 P-Q3 8 P-B3 O-O 9 P-Q3 N-QR4 10 B-B2 P-B4 11 QN-Q2 R-K1 12 N-B1** Black made the inaccurate move **12...B-B1.**

Flohr has described with great insight the psychological motif of the battle. Botvinnik, feeling that he had not made the best move, immediately took emergency measures: "**13 B-N5 P-R3 14 B-KR4 N-B3 15 N-K3 B-K2.** This move, which is typical of Botvinnik, speaks volumes about him! Being as usual critical of himself, he understood that he had made a mistake on the twelfth move and decided to remedy it. It also bears witness to his decisiveness. Not many masters would have done this. Euwe, for example, playing against Alekhine, once made the mistaken move R(B1)-K1. Two moves later he had to defend his pawn on B2, and had he returned his rook to B1, in spite of the loss of two tempi, his game would have been quite satisfactory. However, he did not have the courage to admit his mistake and he defended the pawn with a knight [which proved to be weaker—N. K.]".

As we know, will-power is tempered by making constant efforts in struggling against difficulties. In chess in particular it is useful to make oneself fight until all reasonable possibilities are exhausted, and to be on the watch for chances even in the most difficult positions.

What is good defence? First of all it means not giving in to the demoralizing influence of a mistake. There are players whose strength does not decrease, but on the contrary increases when they have to defend. The skill of Korchnoy, Kholmov, Polugayevsky, Ilivitsky and others in defence is explainable by the fact that they manage to preserve their presence of mind at the most difficult moments of the game.

Important trifles.

We have already discussed some typical mistakes and their psychological background in the chess player's thinking process. Since these failings are created not by some supernatural power, but with one's own hand or more precisely with one's own head, it is useful to look at chess players' behaviour in the course of a tournament. It might be objected: is it so important? Would not any conclusions be based on purely superficial and possibly even incorrect impressions?

In reply we have to admit that observation of the exterior does not tell us everything—but it does tell us a good deal. A chess player's behaviour and habits can sometimes tell us more about the causes of his failures than can a detailed anaylsis of positions and variations. Often these seeming trifles can be the mysterious levers which help one's mind to work, or on the other hand, induce tiredness and nervousness.

Whether or not one should sit at the board the whole time is a question of long

standing. It is well known that Botvinnik, in many tournaments he played in, remained glued to his chair for the whole five hours, thinking about his opponent's possible variations. This lead trainers and mentors to say to their charges: "Look at Botvinnik's example: do not walk around while the other player is thinking, but think yourself." In later years Botvinnik, to the amazement of many chess trainers, started walking up and down the tournament hall. However, the watchword "sit and play" has not lost its followers.

What comment can be made here? Every chess player has his idiosyncracies of temperament, attention and other psycho-physiological qualities, so it would be wrong to give one general prescription. Nevertheless I would like to point out certain considerations.

We all know that a human being's capacity for a prolonged and stable concentration of the attention is limited. One cannot expect one's brain to work effectively over the chess-board for the whole five hours.

Let us compare two key moments in a game: suppose you are thinking about your move, weighing up the numerous pros and cons before you decide what to play. In this you try to keep your attention and thinking processes at their very highest level. The will and emotions are strained to the limit. The content of the thinking process, however, is quite different while you are waiting for your opponent to move, especially if you are not in time trouble and the position contains a large number of continuations of roughly equal value. In such cases the mind is relatively passive and the strength of its attention decreases, because the impulse to mobilize the will—that is, the opponent's move—is absent. We try to guess our opponent's move and such a condition, like any uncertainty in life, depresses and disturbs. And tiredness increases.

I will now quote the reactions of my pupils (young first category players) when I suggested playing a few games with the purpose of using their opponent's time for thinking.

A—a lively, impetuous young man of an excitable and even choleric temperament objected hotly: "I cannot play like that. I find every game a trial; I get very tired and close to the time control I make mistakes in calculation." During the game A looked unhappy. He looked round at his opponent and the clock. His results in the games were poor.

B on the other hand was calm, sensible, taciturn and imperturbable; one could hardly tell whether he liked his position or not; he could be classified as phlegmatic. He said: "I got very tired. The things I thought about during my opponent's move were not much use. In many cases I did not guess his move and spent my time on other possibilities. A few times it happened that I calculated a plausible variation and my opponent did make the move I was considering, but when it came to the point it transpired that my preliminary calculations were

"I always lose when somebody takes my picture"—complained Tartakover. This is no capricious remark. Being a very excitable and impulsive man he felt all extraneous influences very strongly.

There are some other external factors which can interfere, especially at the beginning of a game: a new tournament hall, an unusual form of the pieces, clocks etc. One has to try to adapt to such surprises. These are not harmless trifles: they can seriously influence one's psychological tuning.

The power of inertia is very strong in chess. How often chess players, giving in to an ever increasing rhythm of battle, ruin the most promising positions! Particularly notorious is inertia at adjournment. Who has not experienced the desire to get the point as soon as possible, and in consequence over-pressed? The game is adjourned once more and during home analysis one has only to regret the ruin of a position. The period of greatest effectiveness usually lasts until about the third hour of the game. After that one feels more and more tired. This figure is, of course, conditional. Differences in age and physical preparation cannot be ignored. Every experienced chess player knows his "difficult" hour and tries to take evasive measures. Strict self-control and correct assessment of one's own capabilities are very important qualities in this regard: it is these which make up the common sense without which it is not possible to be successful.

One well-known Grandmaster once surprised everyone by offering a draw when he had an extra pawn. When his opponent asked him the reason for his charity he said that he was tired, and that in his mental calculations he had even blundered a queen. "It is only one step from such an imaginary blunder to a real one" added the Grandmaster. It is difficult to criticize him; he knew best how much strength he had in reserve.

It was Botvinnik who first introduced "additional food" during the fourth hour of the game. For a number of years the chess public was intrigued by Botvinnik's mysterious little bottle, which he regularly brought with him. It transpired that the liquid was glucose and other components useful for the work of the brain. Botvinnik, however, later drank coffee. But the fact remains: there was good reason for the advent of vitamins, coffee and glucose in the realm of chess.

Self-control is not only good for fighting tiredness: it is a faithful helper for every decision taken at the board. Let us consider the making of a move. There is wisdom in the saying that one should make a move in four steps: think it out, write it down, check it and lastly, move the piece on the board.

By the way, about writing moves down. I have noticed that most Grandmasters write the game down in full notation. One rarely sees on score sheets 1 e4; more often it is the accurate 1 e2—e4. I pondered on this mystery, and when I became a Grandmaster I also decided to take the full notation up.

Now I have some experience in the matter of writing and I would like to say that it does make good sense: first of all, an additional check—it takes longer to write down and so you can check its correctness for longer; secondly, by using up two or three seconds for writing a move down instead of one you involuntarily divert yourself from excitement and calm down. All in all I liked this innovation.

I recommend it to you too, dear reader, without waiting for the decision of the International Chess Federation.

I hope you will not regret it!

"I always lose when somebody takes my picture"—complained Tartakover. This is no capricious remark. Being a very excitable and impulsive man he felt all extraneous influences very strongly.

There are some other external factors which can interfere, especially at the beginning of a game: a new tournament hall, an unusual form of the pieces, clocks etc. One has to try to adapt to such surprises. These are not harmless trifles: they can seriously influence one's psychological tuning.

The power of inertia is very strong in chess. How often chess players, giving in to an ever increasing rhythm of battle, ruin the most promising positions! Particularly notorious is inertia at adjournment. Who has not experienced the desire to get the point as soon as possible, and in consequence over-pressed? The game is adjourned once more and during home analysis one has only to regret the ruin of a position. The period of greatest effectiveness usually lasts until about the third hour of the game. After that one feels more and more tired. This figure is, of course, conditional. Differences in age and physical preparation cannot be ignored. Every experienced chess player knows his "difficult" hour and tries to take evasive measures. Strict self-control and correct assessment of one's own capabilities are very important qualities in this regard: it is these which make up the common sense without which it is not possible to be successful.

One well-known Grandmaster once surprised everyone by offering a draw when he had an extra pawn. When his opponent asked him the reason for his charity he said that he was tired, and that in his mental calculations he had even blundered a queen. "It is only one step from such an imaginary blunder to a real one" added the Grandmaster. It is difficult to criticize him; he knew best how much strength he had in reserve.

It was Botvinnik who first introduced "additional food" during the fourth hour of the game. For a number of years the chess public was intrigued by Botvinnik's mysterious little bottle, which he regularly brought with him. It transpired that the liquid was glucose and other components useful for the work of the brain. Botvinnik, however, later drank coffee. But the fact remains: there was good reason for the advent of vitamins, coffee and glucose in the realm of chess.

Self-control is not only good for fighting tiredness: it is a faithful helper for every decision taken at the board. Let us consider the making of a move. There is wisdom in the saying that one should make a move in four steps: think it out, write it down, check it and lastly, move the piece on the board.

By the way, about writing moves down. I have noticed that most Grandmasters write the game down in full notation. One rarely sees on score sheets 1 e4; more often it is the accurate 1 e2—e4. I pondered on this mystery, and when I became a Grandmaster I also decided to take the full notation up.

Now I have some experience in the matter of writing and I would like to say that it does make good sense: first of all, an additional check—it takes longer to write down and so you can check its correctness for longer; secondly, by using up two or three seconds for writing a move down instead of one you involuntarily divert yourself from excitement and calm down. All in all I liked this innovation.

I recommend it to you too, dear reader, without waiting for the decision of the International Chess Federation.

I hope you will not regret it!

APPENDIX

The Link Between Age and Success

Chess literature contains frequent pronouncements about the age at which the chess player plays best. In 1945 Kotov advanced the opinion, now commonly held, that the chess player's peak comes between the ages of thirty and forth five This claim, however, and some other similar ones, are not based on a wide statistical analysis and therefore cannot be considered as scientifically well founded.

It is important to clarify this point both for the teaching and playing of chess and for the study of the psychology of cerebral work in general. For this reason I have carried out research into the age and performance in the major chess competitions of the nineteenth and twentieth centuries.

Here is a short account of the history of the problem in question. In his dissertation, P. Buttenwisser (Stanford University USA 1935) advanced the opinion that a chess player preserves his optimal strength until the age of fifty. He came to this conclusion by analyzing the games of chess amateurs who did not participate in competitions regularly. For this reason Buttenwisser's findings cannot be regarded as convincingly demonstrated.

More serious research on the connection between the age of a chess player and his achievements was carried out by the Soviet Academician Strumilin. In his book "Problems in the Economics of Labour" (Moscow 1925) he made a statistical analysis of the results of forty three matches (1863-1911) and of thirty four international tournaments (1890-1914). The participants in these competitions were divided into several age groups. Strumilin counted the total

number of games played, then wins, losses and draws, and then compared the results for different age groups. He concluded that a chess player reached the peak of success between the ages of thirty two and thirty three, after which there was a sharp fall in results, while after the age of sixty there was a catastrophic fall in the player's mental energy.

Strumilin's work is of undeniable interest. However, without going into the results obtained in his work, let us scrutinize the methodology of Strumilin's research. The basis of his comparative analysis was the quantitative indicator of the outcome of the game: a point, half a point or zero.

No doubt the number of points scored does, to a certain extent, reflect the strength of a chess player. However, in my opinion a better measure of a player's success is provided by the relation of his score to those of his opponents. More objective judgements and comparisons of player's performances are obtained from a relative indicator (placing in a tournament) than an absolute one (number of points scored).

I will explain this idea by an example. In the 1959 Candidates Tournament in Yugoslavia, Keres scored 18½ points out of 28, that is 66 per-cent, but he came second and so he did not qualify to play the World Champion. In the corresponding tournament in 1956, in Amsterdam, Smyslov got 11½ out of 18 (63.8 per-cent) and came first. The comparison of these results gives preference to Keres according to Strumilin's method, whereas Smyslov was in fact more successful.

For this reason the placing of a chess player in a tournament was taken as the main criterion in comparing performances. My analysis is based on a wide range of facts. I have analyzed the tournament records of thirty two great chess players of the past and present: Chigorin, tarrasch, Em, Lasker, Teichmann, Maroczy, Pillsbury, Schlechter, Marshall, Duras, Rubinstein, Spielmann, Tartakover, Capablanca, Nimzowitsch, Bogolyubov, Levenfish, Alekhine, Euwe, Makagonov, Ragozin, Flohr, Alatortsev, Kan, Lisitsin, Konstantinopolsky, Tolush, Botvinnik, Lilienthal, Reshevsky, Bondarevsky, Kotov and Boleslavsky. I have registered 524 cases of participation of these players in 125 tournaments during the period 1881-1967. The choice of tournaments was quite difficult. I had to select competitions of comparable strength for statistical purposes.

As additional data for characterizing the long sporting life of a number of chess players I have taken into account participation in individual and team matches, although this work is primarily devoted to the effect of age in tournament chess, which is the main form of chess competition. The struggle has a completely different psychological content in matches and team competitions, and for this reason requires different criteria for a comparative analysis.

The task chosen was to establish for each player the peak of his creativity, the period during which his results were at their highest and most consistent level, and the period of his decline. By a player's *peak* we mean his highest placing in the given tournaments. If the best result was attained several times, then all of them were counted.

The notion of "optimal period" is defined as the time during which the master enjoyed consistently good results. Fluctuations of results during this period were taken to be no more than three places from the best result.

The falling-off in results was analysed on two levels:

(a) some decline in strength of play in which deviation from the average of the optimal period was four to five placings;

(b) decline in which the deviation from the optimal period was more significant.

For each of the thirty two players I determined values of the parameters described above by a statistical analysis. Here are brief characterizations of the performances of two Grandmasters:

RUBINSTEIN (1882-1961). I analyzed twenty one tournaments in which he played. His best result was attained at the ages of twenty five, thirty and forty. His optimal period was twenty five to thirty. Some decrease in strength occured between thirty two and forty two. His decline was at forty three.

TARTAKOVER (1887-1956). I analyzed seventeen tournaments. His peak was at the age of thirty five. His optimal period was thirty three-forty one. Some decrease of strength took place between forty four and fifty. His decline was at fifty nine.

I made similar characterizations of the careers of each of the players under discussion, and obtained the following average results: a chess player attains his best results at about the age of thirty five; his period of optimal and consistent results lasts somewhat longer than ten years; it ranges between the ages thirty and forty; some decrease in strength is observed usually around the age of forty three and a particularly noticeable decline starts at the age of forty seven.

Along with these averages, the individual developments of the careers of the great players are also of interest. As a visual aid I plotted the tournament results of all the thirty two players on graphs. On the vertical axis placings in tournaments were plotted, while the horizontal axis represented age.

The graphs allowed me to grasp at a glance the careers of the players and compare their tournament longevity. The graphs showed, for example, that for most of the players I examined, significant fluctuations during a tournament career were the rule. These variations are most obvious in the cases of Spielmann, Kotov, Lilienthal, Ragozin and Tolush.

It was also noticeable that the growth of a chess player's strength, his

approach to his optimal period and the beginning of his decline do not, as a rule, take place in a strictly consistent way, but are accompanied by considerable fluctuations in results. Failure after the first significant achievement happened to Chigorin, Maroczy, Marshall, Duras, Nimzowitsch, Makagonov, Konstantinopolsky and Kotov; singular "uplifts" occured during the period of decline in the careers of players such as Chigorin, Tarrasch, Lisitsin and Tolush.

There are no sharp fluctuations in Lasker's or Botvinnik's careers, nor in those of Tarrasch, Alekhine, Capablanca, Pillsbury, Maroczy and Reshevsky. The most striking feature is the consistency of high results in Lasker's and Botvinnik's careers. These are exceptional examples of sporting longevity.

It is too early to come to final conclusions. We can, nevertheless, infer that a chess player's longevity not only depends on his health and individual idiosyncracies, but is in direct relation to the general content of the creative life of the master, to the breadth of his intellect and to the force of his personality.

The enviable constancy in the careers of Lasker, Botvinnik, Euwe, Maroczy, Vidmar, Levenfish and Tarrasch is probably explainable by their high level of training in other kinds of cerebral activity outside chess.

Thus, our data to some extent corroborate those of Strumilin, while in certain respects they correct them. It is hard to agree with Strumilin that after the age of thirty two-thirty three the general tendency is towards a decline in mental activity. According to my data, decrease in the strength of play (and moreover still not a very significant one) occurs later, around the age of forty three.

It is also to be hoped that in the near future scientific recommendations on training methods and on the frequency of a player's participation in tournaments will help to lengthen his active chess life-span. The state of contemporary psychology allows us to look forward to this possibility with optimism.

When to start.

The length of a chess player's period of active play depends on several factors, among them certainly being his general intellectual development, his character and his conditions of life and health. But it appears that one must include a less obvious influence in the list—namely, the time at which he starts playing chess.

The Soviet psychologist B.G.Ananiev was certainly of this opinion, he wrote: "There is an indubitable connection between commencement and culmination. . ." Before we can substantiate this claim we need to agree what exactly constitutes the beginning of chess activity. According to Ilyin-Zhenevsky, ". . .the life of a chess player begins, not when he learns the moves, but when he becomes interested in chess".

And many other chess players have differentiated in their autobiographies

between the moments of learning the rules and of becoming seriously interested. Another example is Alekhine, who wrote "I have been playing chess since I was seven, but I only became seriously interested when I was twelve". Nevertheless, such a distinction is entirely subjective and is often not really justified. Take the case of Alekhine: a little further on, speaking of blindfold play, he said: "At the age of twelve or thereabouts I tried to play without sight of the board" Now, to play blindfold takes a very solid grounding in chess, and Alekhine had evidently attained this by the time he was twelve. Further indications are his presence at a display given by Pillsbury when he was ten and his playing correspondence chess between the ages of ten and twelve.

The biographies of other leading masters point to a similar pattern. The majority of them showed a marked inclination towards chess as soon as they learnt the rules. By a player's *start* we shall therefore understand the time he first learnt the rules of chess.

What, then, can be said of the connection between starting age and performance? I have analyzed the careers of 60 Grandmasters of the past and present (Philidor, L. Paulsen, Morphy, Zukertort, Chigorin, Em. Lasker, Maroczy, Pillsbury, Rubinstein, Spielmann, Vidmar, Nimzowitsch, Capablanca, Levenfish, Alekhine, Euwe, Flohr, Najdorf, Lilienthal, Botvinnik, Reshevsky, O'Kelly, Bondarevsky, Kotov, Keres, Szabo, Fine, Boleslavsky, Furman, Smyslov, Gligoric, Geller, Benko, Petrosian, Antoshin, Matanovic, Krogius, Korchnoi, Lein, Ivkov, Vasyukov, Gurgenidze, Lutikov, Lengyel, Polugayevsky, Uhlmann, Olafsson, A. Zaitsev, Larsen, Ciric, Tal, Gufeld, Spassky, Gipslis, Portisch, Parma, Fischer, Hort, Balashov and Karpov) and discovered some interesting features.

Group 1			Group 2		
Name	**Starting age**	**Period of optimal results**	**Name**	**Starting age**	**Period of optimal results**
Zukertort	7	9	Chigorin	16	12
Spielmann	5	17	Em. Lasker	12	30
Nimzowitsch	8	6	Maroczy	15	9
Capablanca	4	25	Pillsbury	14	6
Levenfish	6	18	Rubinstein	14	6
Alekhine	7	20	Vidmar	15	18
Euwe	5	14	Flohr	14	8
Reshevsky	4	25	Botvinnik	12	17
Bondarevsky	9	9	Lilienthal	15	4
Boleslavsky	9	12	Kotov	14	6
Averages	6.4	15.5		14.3	11.8

The first observation is that the average starting age is ten and a half. The second is that many players' results do not decline uniformly after their optimal period (that is, period of consistently good results), but experience a sort of "upturn" or second peak, during which they attain a level on a par with that of their optimal period, and in certain cases even surpass the best results of earlier times; furthermore, the occurrence of such a second peak is connected with starting age, as will appear shortly.

To relate starting age and the duration of the optimal period, I divided certain chess players into two groups according to whether they started before or after the age of ten and a half (see the table).

Note that the two groups are about equal in accomplishment, so that we cannot speak of the greater talent of either group.

The analysis shows that the players who started earlier had longer active playing lives. Those in the first group were introduced to the game nearly 8 years earlier than those in the second, and the average duration of their optimal creative periods was 3.7 years longer. It seems that we are entitled to deduce that a relatively early start (up to the age of ten) promotes a long active period and postpones the point of decline to a later date. This inference was confirmed by research carried out on the careers of forty players. Players who started before the age of ten appear to have had optimal periods lasting four years longer than the others. The most interesting phenomenon of the second peak raises a number of questions. How long does it last? How long after the optimal period does it come? What are the conditions for its occurrence? Clear cases of the second peak occur in the lives of Chigorin, Tarrasch, Maroczy, Rubinstein, Ragozin, Alatortsev, Lisitsin and others. Let us examine the case of Chigorin. His optimal period lasted from 1883 to 1895 (12 years), during which time he had consistently good results: he came 1st-2nd in New York in 1889, 2nd at Hastings in 1895, 4th at London in 1883. He played matches against Steinitz in 1889, 1891, 1892, against Tarrasch in 1893 and so on. After the tournament at Hastings in 1895 a period of gradual decline began. (St. Petersburg 1895-96, Nuremburg 1896, Cologne 1898, Vienna 1898, etc.). In spite of some high placings (Budapest 1896, Cologne 1898, Moscow 1899) his performance curve was falling.

And so it continued until 1903, when Chigorin performed superbly. In May he was first in the Gambit Tournament in Vienna ahead of Marshall, Pillsbury, Maroczy, Teichmann Schlechter and others. In August Chigorin won a thematic match against Em. Lasker and finally, in September, he won the Third All Russian Tournament ahead of Bernstein, Salwe and Rubinstein. 1903 was the great Russian chess player's second peak. And after this "swan song" his

successes diminished sharply (at Cambridge-Springs 1904, he came 6-7th, at Ostend 1904, 13th, at Barmen 1905, 7-10th, and so on).

The second peak can come at a wide range of ages. Chigorin and Maroczy had theirs at 53, Rubinstein at 47-48, Alatortsev at 41; on average the "upturn" is usual at the age of 44-45.

Statistics show that the second peak is a relatively short phase: its average duration is a little less than a year. The duration of the optimal period is thus 10(!) times that of the second peak. The interval between the second peak and the optimal period is about six years. As a rule, after the second peak a sharp decline occurs. The relatively slow and gradual recession in results which takes place in the interval between the optimal period and the second peak now gives way to an almost catastrophic fall in the chess player's strength.

Comparsion shows that a second peak can be observed mainly in players who were introduced to the game relatively late—after the age of eleven. In this context we can point to Chigorin, who started at 16, Maroczy at 15, Rubinstein at 14 and so on. Players who were introduced to the game before the age of nine do not usually experience a second peak. Examples are Capablanca (who started at 4), Euwe (5), Paulsen (5), Nimzowitsch (8), Levenfish (6), Zukertort (7) and others, who all went through their chess careers without a second peak.

An early acquaintance with chess, then, not only influences the duration of the optimal period, but also promotes a more even spread of results during one's chess career. It is true that the player who starts later has a second peak, but as a rule, this brief Indian summer does not make up for the relative shortness of his optimal period. In addition the sharp fall in chess playing ability after the second peak means a very abrupt finish to the career of such a player.

Another feature of interest in the temporal profile of a chess player's career is the point of his first significant achievement. Once again we divided selected masters into two groups according to starting age, and this time we tabulated the age of each player's first Grandmaster result*. To do this of course required subjective judgements: examples of our decisions are as follows. Chigorin's first Grandmaster success was in 1883 (London, 4th), Em. Lasker's in 1892 (win in a match against Blackburne) and Maroczy's in 1896 (Nuremburg, 2nd).

* I took as my criterion a player's first Grandmaster result rather than the beginning of his optimal period, as the latter could not be applied to present-day players. For the period before the creation of the official Grandmaster title a GM result was taken to mean coming in the first four places in a strong international tournament or defeating in a match somebody who had already attained a Grandmaster result.

Group 1				Group 2			
Name	**Starting age**	**First GM result**	**Interval**	**Name**	**Starting age**	**First GM result**	**Interval**
Morphy	10	21	11	Blackburne	17	29	12
Zukertort	7	29	22	Chigorin	16	33	17
Spielmann	5	25	20	Em. Lasker	12	24	12
Nimzowitsch	8	26	18	Maroczy	15	26	11
Capablanca	4	21	17	Pillsbury	16	23	7
Alekhine	7	22	15	Rubinstein	14	24	10
Euwe	5	26	21	Vidmar	15	26	11
Reshevsky	4	24	20	Flohr	14	23	9
Bondarevsky	9	27	18	Botvinnik	12	22	10
Keres	5	21	16	Lilienthal	15	25	10
Boleslavsky	9	26	17	Kotov	14	26	12
Smyslov	6	20	14	Fine	12	22	10
Geller	7	27	20	Gligoric	12	28	16
Benko	8	30	22	Petrosian	12	23	11
Ivkov	8	22	14	Korchnoy	13	25	12
Larsen	7	21	14	Vasyukov	13	28	15
Tal	7	21	14	Polugayevsky	12	26	14
Spassky	5	18	13	Portisch	12	24	12
Fischer	6	15	9				
Hort	7	21	14				
Balashov	5	21	16				
Karpov	5	19	14				
Averages	6.5	22.8	16.3		13.6	25.3	11.7

This table does show a significant difference: it took players of the second group (who started 7 years later on average) 4.6 years fewer to attain a Grandmaster result than those of the first group, so that they became Grandmasters when they were roughly two and a half years older.

How should we interpret these findings? It is conceivable that the duration of the optimal period does not depend in a necessary way on starting age, but that improved methods of training in adolescence would restore the later starters to parity with their more precocious colleagues. To decide this important point and to try to clarify how profitable an early acquaintance with chess is, we need to investigate the characteristics of a chess player's thinking in childhood.

Different authors express diametrically opposed views of an early starting age. Nimzowitsch wrote:

"I was eight years old when I first became acquainted with chess. Nevertheless. . .I now boldly assert that the development of my chess would have been more harmonious and, above all, less painful, had I begun to play not in childhood but in youth. . .My development up to 1906 (I was born in 1886) was extremely one-sided: it centred on combinative play to the neglect of positional. This could have been avoided without any drawbacks merely by waiting a while and teaching me the game at a more mature age"

So Nimzowitsch saw the disadvantage of learning the game early in the concreteness of a child's thinking. Here is a second authoritative opinion—that of Reti:

"The most striking feature of Capablanca's style is his tremendous confidence—the almost total absence of oversights or mistakes in the evaluation of positions. That is undoubtedly connected with the fact that he learnt chess in early childhood. Chess became his "mother tongue". He understood without effort the sorts of simple position in which the player who had learnt the game later in life had to work out his laborious way.

It is interesting to compare him in this respect with Rubinstein, . . ., who learnt to play at the age of eighteen [at fourteen according to new data—N.K.]. From time to time he used to (and still does) make blunders, recalling an orator who speaks, not in his mother tongue, but in a language learnt in maturity, so that, for all the profundity of his thoughts, he cannot always find the appropriate telling expression."

Reti points out the significance of an early start in forming and developing intuitive patterns of thinking. I have a similar opinion, based on experience of training and of participating in competitions.

Nobody doubts the great significance of intuition in chess. We all know of cases of the sudden appearance of a correct solution, and of an immediate understanding of a position. Intuition is usually associated with the moment when a solution is found (that is, with the choice of a move), but intuitive forms of thinking also play a role in the phase of getting to understand a position. They are involved, for instance, in the evaluation of the position immediately after the opponent's move.

Intuitive orientation is of great practical importance in the game. It somehow signals to the chess player those peculiarities of the situation, those immediate threats on the basis of which he can carry out a deeper analysis. Inadequate or slow orientation leads to mistakes—sometimes quite obvious one or two-move blunders which one would have thought inexplicable for a high class player. One might expect, therefore, a correlation between a player's level of intuitive perception of positions and the number of blunders he makes.

With this in mind I made a study of the one-move blunders in the games of our forty chosen players. I took around 1,500 games, 4 per cent of which

contained such blunders. And indeed, the distribution of them was very uneven: the representatives of the second group (later starting age) made twice as many mistakes as those in the first group. From the second group, only Em. Lasker and Fine can be said to have blundered only exceptionally, whereas from group one Geller, Benko and Ivkov are about average, Zukertort, Spielmann, Reshevsky and Keres made a few blunders and for the rest blunders are of great rarity.

So players whose starting age was below ten made significantly fewer obvious tactical mistakes than those who started later. It seems that the combinative tendency of childhood, about which Nimzowitsch complained, in fact helps towards the accumulation of concrete experience which turns into intuitive perception of positions. We can therefore infer that an early start to chess activity has a definite effect on the development of intuition. It further appears that the combinative character of children's play (which is due to the psychological chracteristics of childhood) aids the acquisition of that tactical mastery which is so essential to any player. Nor does experience suggest that it hinders the formation of positional undertstanding: Capablanca, Alekhine, Keres and Smyslov all became versatile players, and Nimzowitsch himself entered chess history as an original strategist.

The study of the relation between creative activity and starting age shows the presence of certain potentials for development in the personality of a chess player. A pressing task is to investigate these potentials thoroughly and learn to make rational use of them.