Instead of an editorial and a full complement of studies we have great pleasure in offering in EG 6 a full-length complete article specially for EG by Master of Composition G. M. Kasparian of Erevan in the USSR. The translation is by Paul Valois. E.G. has the copyright. All rights reserved.

## The Technique of Study Composition

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Modern study composition has reached a stage in its development where, in order to create an interesting, valuable work of art, the composer needs a high standard of technique as well as imagination. A truly artistic composition must be both striking in content and complete in form.
Technique in study composition is a combination of various devices used by the composer. It helps him to achieve the maximum artistic results with a minimum of material on the board. Maximum economy of material is a constant factor in technique. Technique helps the composer to discern correctly the particularities of each position on the basis of deep and accurate analysis. But nowadays bare technique alone is insufficient. It is also necessary to combine it harmoniously with creative imagination, with the search for originality.
The methods of study composition are well known. It is worth while reproducing here what $R$. Réti said about them. "There are two types of study composers: A, those who study interesting basic positions, sort out those deserving of particular interest, and give them a form which is artistic, economical and pure in aim. And B, those who start from some final position, for example a mate, stalemate, Zugzwang etc, and add introductory play. I am not a protagonist of this second style, though I am somewhat guilty of it ...."
Obviously, there are also studies where it is difficult to distinguish whether they arose from precise analysis, or from the discovery of an interesting final position and the addition of introductory play. Studies of this type as a rule demand a great expense of labour, but then are of great value.
If one analyses deeply the best works of outstanding composers such as Troitsky, the brothers V. and M. Platov, Rinck, Kubbel, Réti, Mattison and others, one discovers in them the particular qualities of their various approaches to the resolution of technical problems. Each of them had his own style, bound up with his artistic views, and each reflected these in his studies. The variety of their artistic standpoints is natural and logical, for in art one cannot assume ready formulas and standard recipes. But one thing is indisputable: in the work of all
outstanding composers one senses a constant striving for the strictest economy of material and for the best use of the pieces.
In the recorded notes of all these composers, there is much interesting and valuable material to be found, an acquaintance with which would assist the development of mastery amongst the younger generation of study composers. With this consideration, I would like to share my thoughts and the experience gained from my work, to elaborate on questions of technique, and to illustrate them with concrete examples. Of course these examples cannot completely cover all the devices of technique in view of the enormity of the subject, but they may nevertheless be useful and instructive. Particular attention will be concentrated on the problem of economy of material.
The development of the modern artistic study has two main directions: 1. The perfection of classical positions and of ideas of the past. 2. The search for originality. Both paths of development, obviously are entirely justified, with the one condition that the work, created by the composer, shall mark an advance. When developing any idea, one needs, in the first instance, a good knowledge of previous work. It is further necessary to be sure that the studv is both useful and progressive, for a mechanical copy or imitation cannot lead to artistic achievement.
I give here two examples of studies being composed, in which the author, aware of the existence of an idea, aimed to expand and develop it.
My interest was aroused by a study of A. Gurvich's (diagram 1a), in particular the position after Black's sixth move. This position, where a white knight successfully struggles against rook and knight, is quite interesting. My aim was to increase the number of squares that the black rook could dispose of, in other words to make it more mobile. After some analysis, I succeeded in finding this position (diag. 1b)
1a: 1. e7 $\dagger$ Sxe7 2. Sxe7 Sh2 $\dagger$ 3. Kg3 Sf1 $\dagger$ 4. Kg2 Se3 $\dagger$ 5. Kf3 Rxe7 6. a7 Rxa7 7. Sd4 Ra3 8. Sb5 Rb3 9. Sd4 Rc3 10. Sb5 Rc5 11. Sd4 etc. Draw. 1b: 1. Sg7 Re7 2. Sf5 Re6 3. Sg7 Rg6 4. Sf5 Rg4 5. Sh6 (5. Kf3? Sf6 wins) 5. . Rh4 6. Sf5 Rg4 7. Sh6 Rg6 8. Sf5 Re6 9. Sg7 Re7 10. Sf5 Re8 11. Sg7 Rg8 12. Sf5. Draw.

Comparing the end of Gurvich's study with diagram 1 b , one can say that the problem of activating the rook has been successfully solved. A detailed analysis of the position proved its soundness.
Therefore, to finish off the study, one only needed some good introductory play. At first it seemed that this would be easy to find. Indeed possibilities of developing introductory play by adding a white bishop soon presented themselves (see diagrams $1 \mathrm{c}-1 \mathrm{~h}$ ).

1c: 1. . . Rb4 2. Sd3 Se4 $\dagger$ 3. Kf4 Rxa4 4. Sb2 etc.
1d: 1. .. Sg5 $\dagger$ 2. Kg3 Rb4 3. Sd3 Se4 $\dagger$ 4. Kf4 Rxa4 5. Sb2 etc.
1e: 1. .. Se4 $\dagger$ 2. Kf4 Rxa2 3. Sd3 Ra4 4. Sb2 etc.
1f: 1. . . Rc2 2. Be4 Sg5 $\dagger$ 3. Kf4 Sxe4 4. Sd3 etc.
1g: 1. .. Se4† 2. Kf4 Rxc2 3. Sd3 etc.
1h: 1. Be8! Re4 2. Sxg7 (2. Bd7†? Kb8 3. Sxg7 Re7 wins) Sd2 $\dagger$ 3. Kf2 Re7 4. Sf5 Se4 $\dagger$ 5. Ke3 Rxe8 6. Sg7 etc.
An examination of diagrams $1 \mathrm{c}-1 \mathrm{~h}$ shows the difficulties of developing introductory play, quite apart from the fact that Black has here to be given the first move. Thus, further material had to be added. It should be pointed out that the positions in certain diagrams have been turned through $90^{\circ}$. The aim of this device, frequently used in problem and study composition, is to discover new possibilities in the position (with the addition of pawns). Diagram 1 h illustrates this point: here the
turning of the board has been necessary to suit the addition of the pawn g7.
From here I tried to create introductory play without pawns, but increasing the number of pieces.
In 1945, when I composed the study, I considered this more or less the only way, but now I have changed my mind; perhaps I should have chosen as the final version a study on the lines of 1 h (two minor pieces against rook, knight and pawn).
Below are some other matrices for introductory play (with added material).

1i: 1. Ke3 Sg6 2. Bh7 Rg4 3. Bxg6 Rxg6 4. Sf5 etc.
1j: 1. ..Sg3 2. Sg7! Rxe7 3. Kxg3 Sf1 $\dagger$ 4. Kf2 Sd2 5. Sf5 Se4 $\dagger 6$. Ke 3 etc.
1k: 1. . .Re3 2. Bf2 Re4† 3. Kf3 Sd2† 4. Kg3 Bf2 $\dagger$ 5. Kxf2 etc.
11: 1. ..Ra4! 2. Bf7! Re4! 3. Be8 $\dagger$ Kc8! 4. Bf2! Bh4 $\dagger$ 5. Kf3 Bxf2 6. Kxf2 Re7 etc.
$1 \mathrm{~m}: 1 . . . \mathrm{Re} 4 \dagger$ 2. Kf3! Sd2 $\dagger$ 3. Kg3 Bxf2 $\dagger$ 4. Kxf2 etc.
1: 1. Ba5 $\dagger$ Ka3 2. Bf3! Sd4 $\dagger$ 3. Kd3 Sxf3 $\dagger$ 4. Ke4 Rb5! 5. Kxf3 Sh4 $\dagger$ 6. Kg4 Sg6 7. Sd6! Se5† 8. Kf5 Rxa5 9. Sb7 Rb5 10. Sd6 Rc5 11. Sb7 Rc7 12. Sd6 Re7 13. Sc8 Re8 14. Sd6 Re7 15. Sc8 Rc7 16. Sd6 Rc5 17. Sb7 Rb5 18. Sd6 Ra5 19. Sb7 Ra7 20. Sd6 Re7 21. Sc8. Draw.
Diagram 1 is the final version of the study. It has the same material as the others, three minor pieces against rook and two minor pieces, but the introductory play is sharper and more tense.
When in 1953 I set about working on another idea, I already knew of the following studies by Troitsky and Gulyaev.

2a: 1. Rh1 Re1 2. Rf1 Rxf1 3. Bxe3 Kb2 4. Kb4 Kc2 5. Kc4 Kd1 6.
Kd3 Ke1 7. Bd2 $\dagger$ Kd1 8. Be3. Draw.
2b: 1. Sg3 Re1 2. Kb3 Rd1 3. Sh1 Rxh1 4. Bd4 $\dagger$ Kb1 5. Be5 Kc1 6.
Kc3 Kd1 7. Kd3 Ke1 8. Ke3 etc. Draw.
As I set about developing the idea, I determined either to make the introductory play more dynamic or to find other, additional moments enriching Troitsky's idea. But my first try was a failure. (diag. 2c)

2c: 1. Bg3 Kb2 2. Kb4 Kc2 3. Kc4 Kd2 4. Kd4 Ke2 5. Ke4 Kd2 6. Kd4 $\mathrm{Kc} 27 . \mathrm{Kc} 4$ etc.
Here apart from 1. Bg 3 , 1. Bf 4 Kb 2 2. Kb 4 Kc 2 3. Kc4 also draws. Further, in comparison with the final positions of the Troitsky and Gulyaev studies already shown, nothing had been achieved. In my further research, I used the same material as in Troitsky's study, bishop and knight against rook and pawn.

2d: 1. Bf2 Kb2 2. Kb4 Kc2† 3. Kc4 Kd2 4. Kd4 Kc2 5. Kci Kb2 6.
Kb4 Ka2 $\dagger$ 7. Ka4 Rf1 8. Sh1 Rxh1 9. Bg3 Kb2 10. Kb4 etc.
In the next diagram, 2d, it seems that progress has already been made -here the interaction of the white pieces is a tangible factor. This position was a starting point in reworking and devoloping Troitsky's idea. All seems to be well in position 2 d -White achieves the draw. This appearance of soundness might have led me to compose a defective study, for in fact, Elack wins: 1. Bf2 Kb2 2. Kb4 Kc2† 3. Kc4 Kd2 4. Kd4 Rg1! 5. Sh1 Ke2 (also possible is $5 .$. Rg4 $\dagger$ 6. Ke 5 Ke 2 winning) 6. Bg3 Rd1 $\dagger$ (but not Rxh1 7. Ke4 draws) 7. Ke5 Kf3 8. Bxh2 Rxh1 (now the bad side of 7 . Ke5 is revealed, for the white king blocks his bishop) 9. Bf4 Rh5 $\dagger$ wins. Ifs in this variation, there were no dual on Black's fifth move by 5. . . Rg4 $\dagger$ one could, in diagram 2 d , simply change colours and set the condition as a win. Therefore the first five moves of diagram had to be rejected and the colours changed, leading
to diagram 2 e . The final version of this study is shown in diagram 2. 2e: 1. . . Bb6! 2. Re8 $\dagger$ !! Kd4! 3. Kc6!! Bxa7 4. Rxa8 Bc5 5. Ra4 $\dagger$ wins. 2: 1. Rg8! Bc7! 2. Kd7 Bb6! 3. Re8十!! Kd4 4. Kc6! Bxa7 5. Rxa8 Bc5 6. $\mathrm{Ra} 4 \dagger$.

Thus, analyzing this position with rook pawn led to the composition of a win study where Black uses counterplay based on Troitsky's idea. However, it must be pointed out that I was not very satisfied after composing this study. I wanted to find some more interesting and sharper features. I turned again to position 2d after the move 1. Bf2 and shifted bishop, knight and pawn one square to the left, which gave diagram 3a. It was not so easy to answer correctly the question posed under the diagram. On it depended the fate of any further development of the idea. Preliminary analysis gave the following: after 1. . . Kb2 2. Kb4 Kc2 $\dagger$ 3. Kc4, Black's strongest reply is 3. .. Rc1 (if 3. .. Rf1 then 4. Sg1 Kd2 5. Bf3 Rc1 $\dagger$ 6. Kd5! draw; this variation recalls the endplay of diagram $2 e$ with colours changed, the difference being that here the position is one square from the side, which saves White) 4. Sg1 Kd2 $\dagger$ 5. Kd4 Ra1 6. Bh5! Rf1 (another interesting variation is 6. . . Ra4 $\dagger$ 7. Ke5 Ra5 $\dagger$ 8. Kf4 Rxh5 9. Kf3 Rg5 10. Kf2, a new positional draw!) 7. Be2 Rf4 $\dagger$ 8. Ke5 Ke3 9. Bb5 Rf1 10. Kh3 Rc1 11. Kd 6 and then 12. Bc6 draws. All this is quite interesting, and one might think that the draw study is almost ready. But here too only close analysis could reveal the most hidden particularites of the position; Black wins in the main line by 5. .. Rf1!! (instead of 5. .. Ra1?) 6 Bh5 Rf4 $\dagger$ 7. Ke5 Ke3, as White is now in Zugzwang, for example 8. Bg6 Rh4 and wins. Therefore, Black to move in diagram 3a wins. What could the composer do? Clearly, change colours, with the new condition-White to win. Addition of introductory play led to study 3.

3: 1. e5 Sd3 2. Rb8 Bd7 3. b6 Sxe5 4. Rg8 Kh4 5. b7 Sc6 6. Kg7 Kg5 (this is now the position examined under 3a) 7. Kf7 $\dagger$ Kf5 8. Rf8 Sb8 9. Ke7 $\dagger$ Ke5 10. Rc8 Ba4 11. Rc5 $\dagger$ Kd4 12. Kd6 wins.
Comparing the Troitsky and Gulyaev studies with the present one, the following conclusion can clearly be drawn: relentless, painstaking hard work has led to the development of Troitsky's idea involving its transfer to thematic black counterplay and to the enrichment of White's play in refuting Black's clever defence. Therefore, one can consider this as a step forwards, as an improvement of an already known idea. Thus, these examples of the development of known positions show how the aim the author set himself before starting was achieved, and what directions the reworking took. In study 1 , after the discovery of the final position, the problem was basically to create introductory play. Studies 2 and 3 arose in the process of deep analysis, refutation, and eventual achievement of truth. These are not, however, analytical studies because analysis is here only an auxiliary factor, whereas the basis lies in the interesting trek to the win while overcoming positional draw ideas in Black's play.
Studies showing systematic movements are not so close to the practical game as others; but in spite of this, the motifs of systematic movement can be of interest to all chessplayers. The majority of such studies come from the composer's imagination. Cases of their arising in practical games are very rare (the most likely source of such positions is pawn endings). Below are some examples of studies showing systematic movements.
In 1946 I became interested in the following idea of systematic movement of black rooks and white king (diag. 4a).

4a: 1. .. Rel $\dagger$ 2. Kd2 Rd1 $\dagger$ 3. Kc2 Rc1 $\dagger$ 4. Kb2 Rb1 $\dagger$ 5. Ka2! Ra1 $\dagger$

6 Kb2 Rgb1 $\dagger$ 7. Kc2 Rc1 $\dagger$ 8. Kd2 Rd1 $\dagger$ 9. Ke2 Rel $\dagger$ 10. Kf2 Rf1 $\dagger 11$. Kg2 Draw.
The point of White's fifth move is in the luring of the black rook to a1, after which Kxg7 still does not work because of Bd4†. Diagram 4b is a slight modification of this position.

4b: 1. . Rbg1 $\dagger$ 2. Kf2 Rf1 $\dagger$ 3. Ke2 Re1 $\dagger$ 4. Kd2 Rd1 $\dagger$ 5. Kc2 Rc1 $\dagger$ 6. Kb2 Rb1 $\dagger$ 7. Kc2! Rhc $\dagger$ 8. Kd2 Rd1 $\dagger$ 9. Ke2 Rel $\dagger$ 10. Kf2 Rf1 $\dagger$
11. Kg2 Rg1 $\dagger$ 12. Kh2 Draw.

In these two positions, the play dies out and ends in a simple draw after one cycle of movement. The author wanted to make this movement continuous, that is to find a position where, after the first cycle, a second would be possible, and so on, thus creating a sort of perpetuum mobile.
Diagrams 4 c and 4 d show the possibility of such a treatment of the Idea. After some work I succeeded in expressing it in study 4.

4c: 1. . Rag1 $\dagger$ 2. Kf2 Rf1 $\dagger$ 3. Ke2 (3. Kg2? Rhgl $\dagger$ 4. Kh2 Sxc6 wins)
Rel $\dagger$ 4. Kd2 Rd1 $\dagger$ 5. Kc2 Rc1 $\dagger$ 6. Kb2 Rb1 $\dagger$ 7. Ka2! Ral $\dagger$ 8. Kb2
Rhb1 $\dagger$ 9. Kc2 Rc1 $\dagger$ 10. Kd2 Rd1 $\dagger$ 11. Ke2 Rel $\dagger$ 12. Kf2 Rf1 $\dagger$ 13. Kg2
Rg1 $\dagger$ 14. Kh2! Rh1 $\dagger$ 15. Kg2 draw.
4d: 1. . Raf1 $\dagger$ 2. Ke2 Re1 $\dagger$ 3. Kd2 Rd1 $\dagger$ 4. Kc2 Rc1 $\dagger 5$. Kb2 Rb1 $\dagger 6$.
$\mathrm{Ka} 2 \mathrm{Ra} 1 \dagger$ 7. Kb2 Rgb1 $\dagger$ 8. Kc2 $\mathrm{K}=1 \dagger$ 9. Kd2 Rd1 $\dagger$ 10. Ke2 Re1 $\dagger 11$. Kf2 Rf1 $\dagger$ 12. Kg2 Rg1 $\dagger$ 13. Kf2 Raf1 $\dagger$ etc.
4: 1. c7 Rf1 $\dagger$ 2. Kg2 Rg1 $\dagger$ 3. Kh2 Rh1 $\dagger$ 4. Kg2 Ba7 5. Rxa7 Rag1 $\dagger$
6. Kf2 Rf1 $\dagger$ 7. $\mathrm{Ke} 2 \mathrm{Re} 1 \dagger$ 8. Kd2 Rd1 $\dagger$ 9. Kc2 Rc1 $\dagger$ 10. $\mathrm{Kb} 2 \mathrm{Rb} 1 \dagger 11$.
$\mathrm{Ka} 2 \mathrm{Ra} 1 \dagger$ 12. Kb2 Rhb1 $\dagger$ 13. Kc2 Rc1 $\dagger$ 14. Kd2 Rd1 $\dagger$ 15. Ke2 Re1 $\dagger$
16. Kf2 Rf1 $\dagger$ 17. Kg2 Rg1 $\dagger$ 18. Kh2 Rh1 $\dagger$ 19. Kg2 Draw.

Further, the idea suggested itself of composing a win study with the same systematic movement (diag. 5a). Here the white rooks complete one cycle of movement to lure the black K to g 7 , after which Bxe3 is possible. Study 5 shows the completed form of this idea. To achieve the win the white rooks must now make two cycles.

5a: 1. Rh8 $\dagger$ Kg7 2. Rbg8 $\dagger$ Kf7 3. Rf8 $\dagger$ Ke7 4. Re8 $\dagger$ Kd7 5. Rd8 $\dagger$ Kc7
6. Rc8 $\dagger$ (not 6. Bxe3 Rb4 $\dagger$ draw) Kb 7 7. Rb8 $\dagger \mathrm{Kc} 7$ 8. Rhc $8 \dagger \mathrm{Kd} 7$
9. Rd8 $\dagger$ Ke7 10. Re8 $\dagger$ Kf7 11. Rf8 $\dagger$ Kg7 12. Bxe3 Rxb8 13. Bxh6 $\dagger$

Kxh6 14. Rxb8 wins.
5: 1. Rf8 $\dagger$ Ke7 2. Re8 $\dagger \mathrm{Kd7}$ 3. Rd8 $\dagger \mathrm{Kc} 7$ 4. Rc8 $\dagger \mathrm{Kb7}$ 5. Rb8 $\dagger \mathrm{Kc} 76$.
Rhc8 $\dagger$ Kd7 7. Rd8 $\dagger$ Ke7 8. Re8 $\dagger$ Kf7 9. Rf8 $\dagger$ Kg7 10. Rg8 $\dagger$ Kh7 11.
Bxe4 $\dagger$ de 12. Rh8 $\dagger \mathrm{Kg} 7$ 13. Rbg $8 \dagger \mathrm{Kff}$ 14. Rf8 $\dagger \mathrm{Ke} 7$ 15. Re8 $\dagger$ Kd7
16. Rd8 $\dagger \mathrm{Kc} 7$ 17. Rc8 $\dagger \mathrm{Kb7}$ 18. Rb8 $\dagger \mathrm{Kc7}$ 19. Rhc8 $\dagger \mathrm{Kd} 7$ 20. Rd $8 \dagger$

Ke7 21. Re8 $\dagger$ Kf7 22. Rf8 $\dagger$ Kg7 23. Bxe3 Rxb8 24. Bxh6 $\dagger$ Kxh6
25. Rxb8 wins.

The search for new ideas and positions in study composition demands a great expense of energy and labour. One does not always succeed in achieving positive results, in spite of great efforts. One is often forced to analyze all possible positions, yet at the end there are no results to show. In such cases the composer must not lose heart. It is best to have a break in work on that particular theme and change to other positions. This is particularly so when dealing with positions showing systematic movements, for here one must use one's imagination more and search harder.
Analyzing positions with two knights against two rooks, without pawns, I found by chance a systematic movement involving continual attack of the rooks. (diag. 6a) Of a large number of similar positions this one was exceptional. In fact, it was a lucky find. Here the two white knights deal beautifully with the rooks, attacking them ceaselessly.

The movements of the knights, rooks and white king flow neatly and logically.

6a: 1. Sc3 Rb7 (1. . . Rb6 2. Sd5) 2. Sa5 R3b4 $\dagger$ (R7b4 $\dagger$ 3. Kc5 Rb2 4. Sc4) 3. Kc5 R7b6 4. Sc6 Rb2 5. Sa4 R6b5† 6. Kc4 R2b3 7. Sc3 etc.

6b: 1. . . Rb5 $\dagger$ 2. Kc4 Rfb2 3. Sf2 $\dagger$ Kh2 4. Sd1 R2b3 5. Sc3 etc.
Diagram 6b shows an attempt to develop introductory play without adding material. However, further analysis showed that, to give White the first move, this was nevertheless necessary. The addition of the one white pawn b2 led to a harmonious combination of introductory and final play.

6: 1. b4 Ra6 2. b5 Rb6 3. Se4 Re2 4. Kd5 Rxb5 $\dagger$ 5. Kc4 R2b2 6. Sf2 $\dagger$
Kh2 7. Sd1 R2b3 8. Sc3 Rb7 9. Sa5 R3b4† 10. Kc5 R7b6 11. Sc6 Rb2
12. Sa4 R6b5 $\dagger$ 13. Kc4 R2b3 14. Sc3 etc. Draw.

The following example is quite instructive. After analytical search I succeeded in finding a win position with a systematic movement of the white rooks (diag. 7a)

7a: 1. Rd6 $\dagger$ Kc7 2. Rd3 Rh1 3. Rdd1 Rh3 4. Re3 Rh1 5. Rc3 $\dagger$ Kb6 6. Rec1 Rh3 7. Rd3 Rh1 8. Rb3† Ka5 9. Rbb1 Rh3 10. Rc3 Ka4 11. Rg1 wins.
Here it seems that all is well. I at first took this position as a basis and began to develop it. Having wasted much time doing this, I suddenly found the following organic defect: instead of 4. Re3, White can also play 4. Re7 $\dagger$ Kc6 5. Re6 $\dagger \mathrm{Kc5} 6 . \mathrm{Re} 5 \dagger \mathrm{Kc} 4$ 7. Re4 $\dagger \mathrm{Kc} 5$ (7. . . Kc3 8. Re3 $\dagger$ any 9. Rg1) 8. Re3 Rh1 9. Rc3 $\dagger$ Kb4 10. Rcc1, winning.
From this a moral can be drawn: before beginning to work on a position one must carefully establish its soundness in all variations, that is the soundness of its basic idea. Otherwise one may waste effort without any results. In the given situation I came to the conclusion that to realize the intended systematic movement of the white rooks, it was unnecessary to have the black king on the back rank; he could be placed on the fourth or fifth rank. Position 7b has no defects. But the composer wanted to include additional subtleties in the introductory play without extra material. Diagrams $7 c$ and 7 show further development of the play. Studies 7 contains two subtle introductory moves 1. Re5 $\dagger$ and 2. Re6 $\dagger$, which increase its value. The main and essential principle in construction is satisfactorily observed in entirety.

7b: 1. Kf4 Rh1 2. Rd3 $\dagger$ Kc4 3. Rdd1 Rh3 4. Re4 $\dagger$ Kc5 5. Re3 Rh1 6. Rc3 $\dagger \mathrm{Kb} 4$ 7. Rccl Rh3 8. Rd4 $\dagger \mathrm{Kb} 5$ 9. Rd3 Rh1 10. Rb3 $\dagger$ Ka4 11. Rbb1 Rh3 12. Rc4 $\dagger$ Ka5 13. Rc3 Ka4 14. Rg1 wins.
7c: 1. Re6 $\dagger$ Kd5 2. Re1 Rhi 3. Rd7 $\dagger$ Kc4 4. Rdd1 etc.
7: 1. Re5 $\dagger$ Kc6 2. Re6 $\dagger$ Kd5 3. Re1 Rh1 4. Rd7 $\dagger$ Kc4 5. Rdd1 Rh3 6. Re4 $\dagger$ Kc5 7. Re3 Rh1 8. Rc3 $\dagger$ Kb4 9. Rcc1 Rh3 10. Rd4 $\dagger$ Kb5 11. Rd3
Rh1 12. Rb3 $\dagger$ Ka4 13. Rbb1 Rh3 14. Rc4 $\dagger$ Ka5 15. Rc3 Ka4 16. Rg1 wins.
In positional draw studies, the motifs of pinning and binding opposing pieces are often used. In such studies White, with small force, binds Black's pieces to the defence of certain points or pieces, thus limiting their mobility and gaining the draw. Sifting through various positions with one minor piece and a pawn against rook and minor piece, I found the following exceptional position (diag. 8a).

8a: 1. Be4 Rd1 2. Bc6 Re1 3. Bd5 Re5 4. Bc6 Rh5 5، Be4 Rh6 6. Bd5 etc. Draw.
Black is unable to realize his great material advantage because his king is tied to the pawn b7 and his rook to the first rank or the h -file (to
defend the knight). The white bishop saves the day, manoeuvring subtly on the squares c6, d5 and e4. After discovering and testing this position, I then tried to create introductory play. Diagram 8 b succeeded in lengthening the solution by three moves without extra material.

8b: 1. b7 Kc7 2. Bd5 Re1† 3. Kg2 etc.
8c: 1. Kf1 Re5 2. Bd7 Rxe4 3. Kg2 Rb4 4. Bc6 Rb1 5. Bd5 etc.
8d: 1. b7 Kc7 2. Sxe5 Sf2† 3. Ke2 Sh1 4. Kf3 Rxe5 5. Kg2 Re1 6. Bc6 etc.

Further development is shown in diagrams 8 c and 8 d . In position 8 c the threat of winning the white bishop or knight is real, and therefore White's position seems quite hopeless. Here White's second and fourth moves are particularly subtle. The next diagram shows an attempt to lure the black knight to hl of its own accord. There followed further attempts to develop the play by adding a black bishop (diags. 8 e and 8 f).

8e: 1. Bd7 Re7 2. Sxe5 Sf2 $\dagger$ 3. Ke2 Sh1 4. Kf3 Rex5 5. Kg2 etc.
8f: 1. Sg4 Bxe5 2. Bd7 Re7 3. Sxe5 Sf2 $\dagger$ 4. Ke2 Sh1 5. Kf3 Rxe5 6.
Kg 2 etc.
8: 1. b6 $\dagger \mathrm{Kb} 8$ 2. b7 Bxb2 3. e5 Bxe5 4. Bd7 Sf2 $\dagger$ 5. Ke2 Re7 6. Sxe5
Sh1 7. Kf3 Rxe5 8. Kg2 Re1 9. Bc6 Kc7 10. Bd5 Rc1 11. Be4 Rd1 12.
Bc6 Rd6 13. Be4 Rh6 14. Bd5 Rh8 15. Be4 Rh5 16. Bc6 etc. Draw.
The final result was study 8 . It is worth considering the process by which the study arose. In diagrams 8 c and 8 d a new piece, the white knight, was added for the introductory play; in diagrams 8 e and 8 f , the author went even further by adding a black bishop.
In the final version of the study a second white knight has been introduced. All these additions were dictated by the author's wish to improve the introductory play, to mask the final position more deeply, in sum, to make the solution more dynamic. Was it worth complicating the position to such an extent for the sake of making the study more difficult? Every study enthusiast and composer can and should ask himself this question. Now that the study has been composed and has competed in a tourney, I would like to answer the question in the negative. I feel that I was wrong to reject such a delicate position as 8 c . Even if were impossible to improve it (without adding material), ihen it would have been sufficiently graceful and interesting as it stood, considering also the subtlety of White's second and fourth moves. In connection with this I would like to turn the attention of young composers to the importance of the strictest economy of material in the realization of the idea in mind. This refers both to the introductory play, and, even more, to the final position. This latter must be of the utmost economical and crystalline purity. In chess publications, (in judges' notes to tourneys, in solutions and in articles), one often sees the expression "lively, double-edged play". Sometimes this expression is misused and is applied to works having nothing in common with play really meriting this description. In this light one cannot describe the play of the present study 8 thus, in the true sense of the phrase, in spite of its dynamic qualities, since the four captures at the beginning lower the study's value considerably.
This episode shows once more how important the principle of keeping a sense of proportion is in composition. It shows that excessive complexity and masking of one's idea to the detriment of the study's construction can give negative results. When following this important principle, the composer must use it in close connection with other factors. Once again, there can be no absolute, standard solution to the
problem; everything depends on the combination of all factors applying to the given study.
As I move on to another example, you will notice a radical difference of approach to the treatment of introductory play in comparison with the last.
I was once interested by the following matrix for pinning down black pieces. (diag. 9a) As yet the placing of the kings is not shown

9a: 1. 1. . Sa3 2. Bf1 Sc2 3. Bd3 Sa6 4. Bf8 Sc7 5. Bd6 etc.
9b: 1. Bd6 Sc2 2. Bd3 Kh5 3. Kg3 Kh6 4. Bf8 $\dagger$ Kh5 5. Bd6 Sa6 6.
Bf8 Sc7 7. Bd6 Sa3 8. Bf1 Sc2 9. Bd3 etc.
To make this into a proper chess position, I had to find a placing for the kings and the white pawns (to avoid possible checks to the white king). Soon a position was found (diag. 9b), and the fantastic idea was already assuming real proportions. The strength of the two extra black pieces is here neutralized by the binding mechanism, and unpinning the knights only leaves them prey to the bishops. At first it seemed that the position was ideal as far as the covering of the white king and the blockading of the black king were concerned. Further analysis refuted this mistaken opinion. It proved possible to give the black king more space, thus creating new possibilities, both in introductory play and in the final position. (diags. 9 c and 9 ).

9c: 1. Bd6 Sc2 2. Bd3 Sa6 3. Bf8 Sc7 4. Bd6 Kg4 5. Kh1 Kf3 6. Kg1
Sa3 7. Bf1 Sc2 8. Bd3 Sa6 9. Bf8 Sc7 10. Bd6 etc.
9: 1. Bd3† Kg8 2. Bd6 Bb1 3. Bc4 $\dagger$ Kh7 4. Bd3 $\dagger$ Kh6 5. Bf4 $\dagger$ Kh5 6.
Be5 Sxc2 7. Bd6 Kh6 8. Bf8 $\dagger$ Kh5 9. Be7 $\dagger$ Kf4 10. Bd6 $\dagger$ Kg4 11. Kh1
Kf3 12. Kg1 Sa3 13. Bf1 Sc2 14. Bd3 Sa6 15. Bf8 Sc7 16. Bd6 Kg4
17. Kh1 Kh5 18. Kg1 Kg5 19. Be7† Kg4 20. Bd6 Kh5 21. Kh1. Draw.

The play in diagram 9 c is quite interesting but really, there is no introduction here; the final position is almost ready. It was worth giving some thought to enlivening the play and masking the final position. By the addition of a single white pawn c2 and a certain readjustment of the pieces it proved possible to improve the introductory play, luring the black bishop from a 2 to b 1 and giving the king even more space, thus making the whole solution more dynamic. (diag. 9).
In the next example, analytical research played the decisive role in creating a study showing a new positional draw based on mutual Zugzwang (diag. 10a).

10a: 1. Be4 Sf7† 2. Kc5 Sd8 3. Kd6 Sb7 4. Kc7 Sa5 5. Kb6 Sc4 6.
Kc5 Se5 7. Kd6 Bd7 8. Bg2 Be8 9. Be4 draw.
10b: 1. Sg7 $\dagger \mathrm{Kf} 6 \dagger$ 2. Kd4 Kxg7 3. Bg2 Be8 4. Kc5 Se5 5. Kd6 (5. Be4?
Kf7 6. Kd6 Kf6 wins) .. Kf6 6. Be4 etc.
It is interesting to follow how work proceeded on finding introductory play. Diagram 10b shows the first attempt. On careful examination of the position a small defect can be found: instead of $3 . \mathrm{Bg} 2$ White can also play 3. Bh3 Bh5 4. Bg2 Be8 after which the play reverts to the basic positional draw, as the author intended. It would hardly be advisable to eliminate this minute defect by adding a black pawn c5 and moving the black knight from g4 to f7 (diag. 10c).

10c: 1. Sg7 $\dagger$ Kf6† 2. Kc4 Kxg7 3. Bg2 Sd8 4. Kxc5 Be8 5. Kd6 Kf6 6. Be4 etc.

10d: 1. Sd7 Be6† 2. Ke5 Bxd7 3. Kd6 Be8 4. Bg2 Kf6 5. Be4 etc.
Here, it is true, all the introductory moves are strictly precise, but then they are more obvious. By shifting a few pieces one can get rid of the pawn on c5 (diag. 10d), but here the introductory play seems forced. At first I thought that in diagram 10e White's fourth move is
the only one and a very subtle move at that. More detailed analysis showed that another subtle move, 4. Bb1, was possible, for example 4. . Sb7 $\dagger$ 5. Kc7 Sa5 6. Ba2 $\dagger$ any 7. Kb6 draw.

10e: 1. Sd7 Bc8 2. Ke5 Bxd7 3. Kd6 Be8 4. Bc2 Kf6 5. Be4 etc.
10f: 1. Kc5 (1. Ke5? Sb7 wins) .. Kf7 2. Kd6 Be8 3. Bb1 Kf6 4.

## Be4 etc.

The dual, of course, ruins position 10 e . One might then simply reject the position, without considering at all whether one could turn this negative feature (the dual) into a positive one. Deep examination of the position led to analysis of 10 f where there is no dual. Here the move 3. Bb1 has a very subtle ring. Thus the discovery of a dual in diagram 10 e brought after it the new subtlety 3 . Bb 1 in position 10 f . I would like to draw serious attention on the part of young composers to such possibilities in study composition. Cnly deep and precise analysis will discover them.

10g: 1. g6† Kf6 2. g7 Kxg7 3. Kc5 Kf7 4. Kd6 Be8 5. Bb1 Kf6 6. Be4 etc.
10h: 1. Sf6 $\dagger$ Ke7 2. Sg8 $\dagger$ Kf8 3. Bb3 c2 4. Bxc2 Kxg8 5. Kc5 Kf7 6 Kd6 Be8 7. Bb1 etc.
Diagram 10 g shows an attempt to develop the play of diagram 10 f . Were it not unsound, it could have been adopted as the final version. But unfortunately, Black wins here by 3... Kf6 (instead of .. Kf7) 4. Kd6 Bf5 5. Ba4 Be4 6. Kd7 Sf7. Diagram 10h shows another attempt t.) develop the introductory play. Further research led first to the discovery of position 10 i and then to study 10 .

10i: 1. Kb4 Kg7 2. Sg8 c2 3. Bxc2 Kxg8 4. Kc5 Kf7 5. Kd6 Be8 6.
Bb 1 etc.
10: 1. Bb3 Kf8 2. Kb4 Kg7 3. Sg8 c2 4. Bxc2 Kxg8 5. Kc5 Kf7 6. Kd6
Be8 7. Bb1 Kf6 8. Be4 Sb7† 9. Kc7 Sa5 10. Kb6 Sc4† 11. Kc5 Se5
12. Kd6 Bd7 13. Bg2 Be8 14. Ee4 Sf7 $\dagger$ 15. Kc5 Sd8 16. Kd6 draw.

In this last there is a try 1. Bh7?, defeated thus, 1. . Kf8 2. Bc2 Kg7 3. Sf5 $\dagger$ Bxf5 4. Bxf5 Kf6 5. Bb1 Ke5 wins.

Fach chess position has its own distinguishing features, conditioned, normally, by the pawn structure. As in the game, pawn position is of great significance. The pawn skeleton defines the defensive and other possibilities of the position. An analysis of positions with a particular pawn structure can show the particular qualities of it and serve as the basis for deriving and developing study ideas. The treatment of such constructionally related positions can give positive results in composing work. All that is needed is painstaking analysis.
There follows material on the treatment of three related positions, from the moment when the primary idea in the position is discovered, through the appearance of additional points to the final realization of the idea.
In 1945, when examining positions with a white pawn on f2, I turned my attention to the following stalemate idea with an incarcerated white bishop on g1. (diag. 11a).

11a: 1. . Kg5 2. $\mathrm{Bg} 1 \mathrm{Qg} 4 \dagger$ 3. Kh2 Qxf3 stalemate.
11b: 1. . Bf3 ${ }^{\text {2 }}$. Rxf3 clQ $\dagger$ 3. Bg1 Qc6 4. Kh2 Qxf3 st.
I then tried to develop introductory play by luring the white rook to f3 by sacrificing a black bishop. At first it seemed that in this position there were possibilities of creating a sharp introductory struggle. But more careful analysis confirmed the necessity of turning back to positions like 11a. A composer tends to develop a certain sense, which tells him to direct his search on a particular line. Sometimes one has
(ne's doubts about it, but in this case I was somehow sure that the correct decision had been made; and it must be said that my sense did not fail me. I began concentrated efforts to work on position 11a. The result was the birth of its offspring 11c-11e.

11c: 1. . Qh1 2. Kg3 Qe4 3. Rf3 $\dagger$ Kg5 4. Bg1 Qg4 $\dagger$ 5. Kh2 Qxf3 st.
11d: 1. Re7 $\dagger$ Kg6 2. Kg3 Qd5 3. Re3 Kg5 4. Bg1 Qd4 5. Rxf3 Qg4 $\dagger$
6. Kh2 Qxf3 st.

11e: 1. Be5 Kf5 $\dagger$ 2. Bg3 h4 3. Rb3 Qc6 $\dagger$ 4. Kh2 h3 5. Kxh3 Qh1 $\dagger 6$.
Bh2 Qf1 $\dagger$ 7. Kg3 Qc4 8. Rf3 $\dagger$ Kg5 9. Bgl Qg4 $\dagger$ 10. Kh2 Qxf3 st. Cook 1. Rb3 h4 2. Re3 Qxg7 3. Rh3 draw.

Of the positions shown, one could consider 11e the most successful if there were not an organic defect, the cook. Therefore, I had to continue research on the creation of introductory play. Diagrams $11 \mathrm{f}-11 \mathrm{k}$ show the results of these searches.

11f: 1. Rb3 Qc6 $\dagger$ 2. Kh2 h3 3. Kxh3 Qh1 $\dagger$ 4. Bh2 Qf1 $\dagger$ 5. Kg3 Qc4
6. Rf3 $\dagger$ Kg5 7. $\mathrm{Bg} 1 \mathrm{Qg} 4 \dagger$ 8. Kh2 Qxf3 st.

11g: 1. Rb3 Qel $\dagger$ 2. Kg2 h3 $\dagger$ 3. Kxh3 4. Bh2 Qf1 $\dagger$ 5. Kg3 etc.
11h: 1. Rb3 Qe1 $\dagger$ 2. Kg2 h3 $\dagger$ 3. Kxh3 ete.
11i: 1. . Qa5 $\dagger$ 2. Kf1 Qa1 $\dagger$ 3. Kg2 h3 $\dagger$ 4. Kxh3 etc.
11j: 1. Rb3 Qc1 $\dagger$ 2. Kg2 h3 $\dagger$ 3. Kxh3 etc.
11k: 1. Rb3 h4 $\dagger$ 2. Bb8 $\dagger$ Kf5 3. Bxg3 Qa1 $\dagger$ 4. Kg2 h3 $\dagger$ 5. Kxh3
Qh1 $\dagger$ 6. Bh2 Qf1 $\dagger$ 7. Kg3 Qc4 8. Rf3 $\dagger$ Kg5 9. Bg1 Qg4 $\dagger$ 10. Kh2 Qxf3 st.
Of this series of positions $11 \mathrm{f}-11 \mathrm{k}$, diagram 11 k stands out. Along with the final version of the study, the author considers this to be a finished cartistic work. Perhaps I should have settled for this position, if I had not wanted to express the idea in miniature form. Therefore I decided to continue work; while looking for new forms, I had partly to examine positions fairly similar to the previous ones. I give the final diagrams 111-11, concluding the series.

111: 1. Kh3 Qh1 $\dagger$ 2. Bh2 Qf1 $\dagger$ 3. Kg3 Qc4 etc.
$11 \mathrm{~m}: 1 . . . \mathrm{Qh} 1 \dagger$ 2. Bh2 Qf1 $\dagger$ 3. Kg3 Qc4 etc.
11n: 1. ..Qe4† 2. Kh3 Qh1 $\dagger$ 3. Bh2 etc. The position is unsound; 2. f4 also draws.
110: 1. Re3 $\dagger$ Kf4 2. Bg3 $\dagger$ Kf5 3. Rxb3 Qh1 $\dagger$ 4. Bh2 etc.
11p: 1. Re3 $\dagger$ Kf6 2. Be5 $\dagger$ Kf5 3. Rxb3 Qh1 $\dagger$ 4. Bh2 etc.
11q: 1. Re3 Kg6 Be5 Kf5 3. Rxb3 Qh1 $\dagger$ 4. Bh2 etc. The position is unsound; 2. .. Qh1 +3 . Kg3 Kf5 wins.
11r: 1. Rd3 $\dagger \mathrm{Ke7}$ 2. Re3 $\dagger \mathrm{Kf6}$ 3. Be5 $\dagger$ Kf5 4. Rxb3 Qh1 $\dagger$ 5. Bh2 etc. 11: 1. Re5 $\dagger$ Kg8 2. Rd8 $\dagger$ Kf7 3. Rd3 Ke6 4. Re3 Qh1 $\dagger$ 5. Bh2 Kf5 6. Rxb3 Qf1 $\dagger$ 7. Kg3 Qc4 8. Rf3 $\dagger$ Kg5 9. Bg1 Qg4 $\dagger$ 10. Kh2 Qxf3 stalemate.
Intense work went on on this study for about three years (1945-48), from which only one fruit came of the branch.
Let us now examine other positions from the same branch. In 1947, while examining positions with incarceration of the bishop, a new win idea appeared in the following position (diag. 12a).

12a: 1. Qe5 Kg7 2. Kh3 Bf5 +3 . Kg3 Kg6 4. Kh4 wins.
The addition of the pawn e6 and a certain rearrangement of the pieces led to the discovery of a new win idea, combined with mutual Zugzwang. Diagrams $12 \mathrm{~b}-12$ show the development of the ideas.

12b: 1. .. Bg6 2. Qd6 Rxf6 3. Qe5 Kg7 4. Kh3 Bf5 $\dagger$ 5. Kg3 Kg6 6. Kh4 wins.
12c: 1. Be5 Bg6 2. Bxf6 $\dagger$ Rxf6 3. Qe5 etc.
12d: 1. Qd6 Sf6 2. Qe5 Kg7 3. Bh4 Rf1 4. Bxf6 $\dagger$ Rxf6 5. Kh3 etc.

12e: 1. Qg3 Sd7 2. Qd6 Sf6 3. Qe5 etc.
12f: 1. . Ral† 2. Kh2 Rb1 3. Qg3 Sd7 4. Qd6 Sf6 5. Qe5 etc.
12g: 1. Kg2 h1Q $\dagger$ 2. Kxh1 Ral† 3. Kh2 Rb1 4. Qg3 Sd7 5. Qd6 Sf6 6. Qe5 Kg7 7. Bh4 Rf1 8. Bxf6 $\dagger$ Rxf6 9. Kh3 Bf5 $\dagger$ 10. Kg3 Kg6 12. Kh4 wins.
12: 1. Qc7 Rb1 2. Bd2 Sf6 3. Qe5 Rf1 4. Bg5 Kg7 5. Bxf6† Rxf6 6. Kh3 Bf5 $\dagger$ 7. Kg3 Kg6 8. Kh4 wins.
The study was published as version 12 g in "Shakhmaty v SSSR", 1948. Ten years later, a cook 8 . Kg3 was found in it. Therefore in 1961 I corrected it as in diagram 12.
While analysing position 11a, I found another winning idea. (diag. 13a.)
13a: 1. Qgl $\dagger$ (1. Qd5? Bb8 2. Qb5 $\dagger \mathrm{Ka7}$ 3. Qxc6 st.) . Kb7 2. Qg2
Kb6 3. Qf2 $\dagger \mathrm{Kb} 7$ 4. Qf3 Kb6 5. Qe3 $\dagger \mathrm{Kb} 7$ 6. Qe4 Kb6 7. Qd4 $\dagger \mathrm{Kb} 7$
8. Qd5 wins.

Here the stalemate idea occurs in Black's counterplay. It is an interesting point that I had the position in rough for many years and only in 1955 was it completed. Here are the results of this final work. (diags. $13 \mathrm{~b}-13$.)

13b: 1. Qa1 Rxc6 2. Qh8 $\dagger \mathrm{Kb} 7$ 3. Qhl $\dagger$ etc. The position has the
defects: 1. Qd3 wins; after 1. Qa1, Rf4 $\dagger$ draws.
13c: 1. c5 $\dagger$ Kb7 2. c6 $\dagger$ Kb8 3. Qal Rxc6 4. Qh8 $\dagger$ Kb7 5. Qh1 Kb6 6. Qg1 $\dagger$ etc.
Defects: 1. Qg5 also wins; in the text 3. . .Rf4 $\dagger$ draws.
13d: 1. c6 Kb8 2. Qa1 Rxc6 3. Qh8 $\dagger$ Kb7 4. Qh1 Kb6 5. Qg1† etc. Defects: after 1. c6, Bb6 saves Black; again a draw after 2. .. Rf4 $\dagger$.
13e: 1. c5 $\dagger \mathrm{Kb} 7$ 2. c6 $\dagger$ Rxc6 3. Qh1 etc.
13f: 1. c5 $\dagger \mathrm{Kb} 7$ 2. Qh1 $\dagger \mathrm{Kb} 8$ 3. Qh8 $\dagger \mathrm{Kb} 7$ 4. $\mathrm{c} 6 \dagger$ Rxc6 5. Qh1 etc. Cook by 1. Qe5.
13: 1. Qh1 $\dagger \mathrm{Kb} 8$ 2. Qh8 $\dagger \mathrm{Kb} 7$ 3. $\mathrm{c} 6 \dagger$ Rxc6 4. Qh1 Kb6 5. Qg1 $\dagger \mathrm{Kb} 7$ 6. Qg2 Kb6 7. Qf2 $\dagger \mathrm{Kb} 7$ 8. Qf3 Kb6 9. Qe3 $\dagger \mathrm{Kb} 7$ 10. Qe4 Kb6 11. Qd4 $\dagger \mathrm{Kb} 7$ 12. Qd5 wins.
Here I have deliberately given the defective positions $13 \mathrm{~b}-13 \mathrm{~d}$, to show the reader how the author succeeded in correcting the position without extra material. One must remember this important rule: when composing a study, one must try to eliminate defects, not by increasing the number of pieces on the board, but observing the strictest economy of force. Diagram 13 e has no cooks, but then has a small defects of a different sort; the black rook on a6 is placed somewhat unnaturally. An attempt to eliminate this fault by placing the rook on $g 6$, brought with it an even greater defect, the cook in diagram 13 f . But it was easily corrected by shortening the solution one move. Study 13 was the third fruit of the family branch.
Of all the aspects of composition, studies are closest to the game itself. Therefore ideas from practical endgames can easily be expressed in studies. The following curious episode took place in the autumn of 1955 in the Erevan chess club.
Watching the friendly game Babayan-Kuloglian, I suddenly spotted and pointed out to the players the following interesting saving line for Black, 1. . Re2 $\dagger$ 2. Rxe2 c1Q 3. Re5 $\dagger$ Ka4 4. f8Q Qc7† 5. Ke6 Qd7 $\dagger$ 6. Kf6 Qd6† 7. Qxd6 stalemate! The players were amazed by this variation and analyzed the position at length, while the player of Black thanked me for finding a saving line in a difficult position. I thanked them in return for an interesting ending, which I promised to express in study form. I did not have to work long over this position, as it was only necessary to create introductory play. Diagram 14b lengthens the introduction by two moves. But, of course, I wanted to
"squeeze" more out of the position. The following diagrams (14c and 14d) develop the lead-in slightly.

14b: 1. Rc7 $\dagger$ Kd3 2. f7 Kd2 3. Rd7 $\dagger$ Rxd7 4. f8Q Re5 $\dagger$ 5. Kh5 c1Q
6. Qf2 $\dagger \mathrm{Kd} 3$ 7. $\mathrm{Qe} 2 \dagger \mathrm{Kc} 3$ 8. Qe3 $\dagger$ Qxe3 st.

14c: 1. f7 Rd8 2. Ra7 c2 3. Rc7 Kd2 4. Rd7† Rxd7 5. f8Q etc.
14d: 1. Re5 c2 2. Re7 Kd3 3. Rc7 Kd2 4. Rd7 $\dagger$ Rxd7 5. f8Q etc.
However, diagram 14d contains a defect; 1. Kg5 also draws. In the final version I succeeded in masking White's final stalemate combination even further.

14: 1. f6 c2 2. Rc6 Kd3 3. f7 Rd8 4. Kh4 Kd2 5. Rd6 $\dagger$ Rxd6 6. f8Q
Rd4 $\dagger$ 7. Kh5 c1Q 8. Qf2 $\dagger$ Kc3 9. Qe3 $\dagger$ Qxc3 stalemate.
Rounding off this article, it must be said that one cannot always fulfil one's aims in composition quickly and satisfactorily. A composer's rough notes often contain positions which have long been awaiting practical realization. In such cases the composer should wait patiently for them to mature. Here is a case in point. In 1946, I discovered a little mating combination (diag. 15a).

15a: 1. Rc6 $\dagger$ dc 2. e7 $\dagger \mathrm{Kc} 7$ 3. e8S mate.
The difficulty in developing the position lay in the static nature of the black rook and bishop. This matrix lay in my notes for fifteen years. Finally in 1961 I began to work on it.

15b: 1. Bf7 Rb8† 2. Ka7 Bb6† 3. Ka6 Bd8 4. Rxc6 $\dagger$ dc 5. e7t Kc7 6. e8S mate.

15c: 1. Bf7 Rb8 $\dagger$ 2. $\mathrm{Ka} 7 \mathrm{Bb} 6 \dagger$ 3. Ka6 Bd8 4. Rxc $6 \dagger$ etc.
15: 1. Bf7 Rb8 $\dagger$ 2. $\mathrm{Ka} 7 \mathrm{Bd} 4 \dagger$ 3. b6 Bxb6 $\dagger$ (3. . Rxb6 4. e8Q $\dagger \mathrm{Kc} 75$.
Ra2 Rb7 $\dagger$ 6. Ka6 wins) 4. Ka6 Bd8 5. Rxc6 $\dagger$ dc 6. e7 $\dagger \mathrm{Kc} 7$ 7. e8S mate.
Diagrams 15b-15 show the logical steps in the technical development of the idea. The addition of the pawn c 6 in diagram 15 b permitted the mobilization of the black rook and bishop. The white rook on 96 mechanically prevented the cooks $1 . \mathrm{Bg} 6$ and 1 . Bh5. In this form the study is sound but easy to solve. In diagram 15c the motivation of the bishop's choice of square is clearly to defend the square a2 (After 1. Bg6?, Black replies 1. . Ra2 and wins, whereas now 1. Bf7 Ra2 allows 2. Rxc6 $\dagger$ followed by 3 . Bxa2 and wins. Naturally, this subtlety slightly enlivens the introductory play. However, this is enormously improved in diagram 15. Here the try 1. Bg6 (h5)? is refuted very subtly, by 1. . Rb8 $\dagger$ 2. Ka7 Bd4 $\dagger$ 3. b6 Rxb6 4. e8Q $\dagger \mathrm{Kc} 7$ 5. Rc5 (other moves are bad for White) Rb3 6. Ka6 Bxc5 7. Qe5 $\dagger$ Bd6 8. Qa5 $\dagger$ Kc8 9. Bc2 (d1) Rb8 10. Qe1 Kc7 11. Qa5 $\dagger$ Kc8. Draw.

These examples of study composition show what colossal difficulties and treacherous underwater reefs lie in the creative path of the composer. Overcoming such difficulties means determined and persistent hard work, combined with a knowledge of the legacy of previous composition and the use of all the achievements of modern technique.



G. Kasparian

2nd prize, Kubbel Mem. Ty.

A. Gulyaev



G. Kasparian

12th Place, 2nd USSR
Championship, 1948

G. Kasparian
"Uralsky Rabochiy" 1946



G. Kasparian

1st H.M., 30th Anniv. Tourney, Armenia, 1950

G. Kasparian

2-3 prizes, Platov
3rd Place, 4th USSR Champ



3rd Prize, 30th Anniv.






G. Kasparian Bulletin of 17 th




G. Kasparian Shakhmaty $\operatorname{SSSR}$ " 1956



Tourney Announcement. Vecherny Tbilisi is holding a tourney on the cccasion of the 800th anniversary of the renowned Georgian poet Shota Rustaveli. 6 Prizes. Entries in 3 copies on diagrams. Judges: Alexander Herbstman and Ghia Nadareishvili. Closing date: 15.xi.66. Address: The Editor, Vecherny Tbilisi, Lenin Street 14, Tbilisi, Georgian SSR, USSR. Mark envelopes "Chess Competition".

Tourney Announcement. Thèmes-64 announce their Tourney No 5, in 2 groups, in honour of the 70th birthday of André Chéron (ix.65).

Group (i) technical (theoretical or didactic) studies
Group (ii) artistic studies
Entries in unlimited number, in 2 copies. Judges: André Chéron and Harold Lommer. 3 Prizes, in each group. Closing date: 31.xii.66. Address: Concours Special No 5, Monsieur Jean Bertin, 14 Avenue Iedru-Rollin, Paris 12e, France.

Review: 64 Vezovych a Pescovych Studii, by Dr Artur Mandler. (Prague. 1965?)
The antipathy I feel towards rook studies and pawn studies might seem a very bad recommendation for reviewing this 93 -page book, which consists of 64 of them. But the antipathy is at least partly due to appreciation of their difficulty, and is in any case outweighed by the deep respect I have for the eminent author, who composed nearly every one of these studies. The reviewer's problem of writing an objective critique is easily resolved, simply by quoting 4 studies from the book. As the ratio of studies to pages shows, the annotations are extensive. We give most of the analysis, but for language reasons we are unable to reprint the comments.
A. J. R.


A: 1. Kb5/i Kg3/ii 2. Kc5/iii Kg4 3. f7 Rf5 $\dagger$ 4. Kd6 Kf4 5. Kd7 Rd5 $\dagger$ 6. Kc6 Rf5 7. Kd6 Rf6 $\dagger$ 8. Ke7 wins.
i) $1 . \mathrm{Rg} 8 \dagger$ ? $\mathrm{Kh} 3=$. 1. f 7 ? Rf4 $\dagger$ 2. Kb5 Kf1 and with bRf2 the draw is clear as $w \mathrm{~K}$ will be checked away if it tries to protect wPf7.

1. Kb4? Rf5 is another useful draw, bK easily maintaining bRf5.
ii) 1. . Rf5 $\dagger$ 2. Kc6 only helps wK approach. 1. .. Kh3 2. f7 wins. 1. .. Kf3 2. f7 wins.
iii) 2. Kc4? Rf5 = . 2. Kc6? is more tempting, 2. . Kg4 3. f7 (3. Kd6 Kf5 4. Rg8 Rd1 $\dagger$ 5. Ke7 Rel $\dagger$ 6. Kf7 Ra1 7. Re8 Ra6 =) 3. . . Re6 $\dagger$ and B1 can choose his K-square in reply to W's choice, drawing, 4. Kd7 Kf5 5. Ke7 Re6t=, or 4. Kc7 Kf3 5. Kd7 Rf4 =, (but not here 4. .. Kf4? 5. Kd8 Rf5 6. Kd7 Rd5 $\dagger$ 7. Kc6 as main line, and not 4. . . Kf5? 5. Kd7 wins).

B: 1. Rh7/i Rg8/ii 2. Kc6 Rc8 $\dagger$ 3. Kb6 Rb8 $\dagger /$ iii 4. Kc5 Rg8 5. Rf7/iv Re8 6. Kd4 Rxe7 7. Rxe7† Kxe7 8. Ke5.
i) B1 threatened . . Rxe7; Rh7, Kf6; but this can now be met by 2 g 7 .
ii) Now threatening 2. . Kd7 with a draw. 2. . Kf6 3. Rf7 $\dagger$ and 4. Rf8 is no threat, nor ..Re8; g7 wins. 2. Kc6 stops .. Kd7 and aims at Zugzwang, which B1 tries to disrupt with checks.
iii) 3. . Rg8 4. Kc7 and B1 has no move, 4. . . Re8 5. Rf7, or 4. .. Ra8 5. g7 Kf7 6. Rh8.
iv) After B1's reply, examine the diagram, and ask yourself what W has gained.
C: 1. Rf4/i Rg3†/ii 2. Kh5/iii Rc3/iv 3. Rf7/v Rc7 4. Kg5 Kc8 5. Kf5 Rc5†/vi 6. Kf4/vii Rc7 7. Ke5 Rc6 8. Rxg7 Kc8 9. Kf5 Ke8 10. Rf7 wins.
i) 1. Re4? Kb7 (1. .. Rc7? 2. Re8 $\dagger \mathrm{Rc} 8$ 3. Re7 Rc7 4. Rf7 Kb7 5. Kf5 wins) 2. Re8 (2. Kf5 Rf3†) 2. . .Rc1 3. Re7† Rc7 4. Rf7 Kc6 5. Kf5 $\mathrm{Rd} 7=$ as $6 . \mathrm{Ke} 6$ is met by $6 . . . \mathrm{Rd} 6 \dagger$.
ii) 1. . . Kc8 2. Rf7 wins, but not 2. Rf8 $\dagger$ ? Kd7 3. Rf7 $\dagger \mathrm{Ke} 8$ or . . Ke6 = .
iii) 2. Rg4? $\mathrm{Rxg} 4 \dagger=$.
iv) It takes W only 3 moves to play Rf4-f7xg7-f7, by which time bK can not travel farther than e8 and W wins easily. So B 1 reverts to defensive R-moves. If 2. . Rg1 3. Rf7 wins, but not 3. Rf8 $\dagger$ ? Kc 7 4. Rf7 $\dagger \mathrm{Kd} 6$ 5. Rxg7 Rh1 $\dagger=$. 2. .. Ra3 3. Rf8 $\dagger-\mathrm{f} 7 \dagger \mathrm{xg} 7$ wins/viii.
v) 3. Rf8 $\dagger$ ? is again wrong, leading into (i) by 3. . Kb7 4. Rf7 $\dagger$ Rc7 5. Kg5 Kc6 6. Kf5 Rd7 $=$.
vi) 5. . Rc6 6. Rxg7 Kd8 7. Ra7 (7. Rf7 also) wins.
vii) 6. Ke4? Kd8 7. Rxg7 Ke8 8. Rf7 and now, despite wRf7 cutting off $\mathrm{bK}, \mathrm{B1}$ draws with 8 . . . Rg5.
viii) 3. Rf7? is itself wrong this time, 3. .. Ra5 $\dagger$ 4. $\mathrm{Kg} 4 \mathrm{Ra} 4 \dagger$ 5. Kg5 Ra5 $\dagger$ 6. Rf5 Ra1 7. Rf8 $\dagger \mathrm{Kc} 7$ 8. Rf7 $\dagger \mathrm{Kd6} 9$. Rxg7 Rgl $\dagger=$.
D: 1. Re4/i Ral/ii 2. Re7 Rg1 $\dagger$ 3. Kf5 Rf1 $\dagger$ 4. Ke5 wins/iii.
i) 1. Rf4? Ra1 2. Rf7/iv Ra5 $\dagger$ 3. $\mathrm{Kf} 4 \mathrm{Ra} 4 \dagger$ 4., $\mathrm{Ke} 5 \mathrm{Ra} 5 \dagger$ 5. Kd4 Rg 5 6. Rxg7 Kc8=. C and D are true "twins", where each solution is a near try in the other position, and the two positions differ only in a single respect ( 1 man moved, added or removed).
ii) 1. . . Rc3 2. Re7 Rc7 3. Rf7 Kc8 4. Kf5 Rc5 $\dagger$ 5. Kf4 as in C.
iii) 4. Ke6? Rf6 $\dagger=$. If 4. . Rd1 5. Kd6 wins.
iv) 2. $\mathrm{Rf} 8 \dagger \mathrm{Kc} 7$ 3. $\mathrm{Rf} 7 \dagger \mathrm{Kd6}$ 4. $\mathrm{Rxg} 7 \mathrm{Rg} 1 \dagger=$.

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