

Aspects of the Preparation of Elements that Make Transitions from the Low Bar to the Upper Bar

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ABSTRACT

The paper deals with the issue of preparation and presentation of the elements that make transitions by dismounting from the low bar to the upper bar regarding the increase of diversity and continuity of integral uneven bar exercises. In this idea, I present new technical methods of performing this action through hitting on the thighs on the back in two technical variants. Elements with facial and dorsal run-up departure the two technical methods of transition to the upper bar can be easily adapted as bar climbs. These new technical actions to perform the dismount bring notes of originality and diversity in the new mobility and biomechanical expression of the possibilities of the human body, in interaction with the apparatus, in a unique technical way for performance artistic gymnastics. Collaterally, I present the possibility of taking over the two technical variants by the boys with the adaptation of these elements to parallel bars. From the methodical analysis of learning back fly dismounts, I present the formation of a new group of descents through hecht with back fly. From the dynamics of the development of the back fly I present new technical modes of presentation and combinations in the direct connection, after the upper bar is gripped. I also present a new technical way to present hecht with a 180 turn, after gripping the top bar.

Keywords: descent through dorsal hecht, dorsal hecht with holding the bar in the bottom grip or mixed grip and variants of procedures and technical combinations, facial hecht 180 and direct straightening, handstand splits, new group of climbs, new skills to men parallels, technical groups of dismounts, the technical and methodical presentation of new dismounts.

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I. INTRODUCTION

Flying, this fantastic desire makes children come to the gym, and the dream of their fantasy gives them wings, ambition, disciplines them, mobilizing them to overcome obstacles and not many years from now, with passion and effort, you will both be delighted, on spectators and athletes through the mastery and art of their flight on the apparatus. The dismounts with transition through the flight to the upper bar are approached by gymnasts with a good and diverse technical background, well physically prepared, with special qualities and aptitudes for this apparatus. These actions are made from an element with rotation near the bar, completed in a handstand as a technical basis, well mastered by the gymnast and from this element on a methodical line and with a clear technical goal, a good dismount can be achieved with a transition to the upper bar. The gymnast can leave with momentum on the dismount and from a combination in direct connection with an element of value, for bonus. The flight must be aesthetic to impress and the main goal being to grip the upper bars under good conditions to enter or complete this transition through a combination under conditions of continuity, as valuable and efficient as possible from a technical viewpoint. Currently, this last part of the dismount (grip and...) with the transition to the upper bar, is still poorly represented as an action in combination and raises special problems in finding effective solutions for the concrete presentation of what is wanted as a sporting performance.

II. TECHNICAL PRESENTATION

To be able to present an integral exercise at uneven bars, with fig requirements from the simple, to the most complex and difficult integral, the elements that make transitions through dismount from the low bar to the upper bar are essential.

These transactions, from bottom to top, make the connection between the parts performed on the lower bar and those on the upper bar.

The dismount elements that make the transitions from the low bar to the upper bar, in a general view, are initiated from a RUN-UP-oriented dorsal facial, necessary to perform MAIN ACTIONS-which, through

skill, technical mastery, cumulative speed force and with the response of the bar, projects the gymnast in FLIGHT upwards and forwards, backwards, controlled, facially, dorsally, towards the upper bar, followed by-GRIP the upper bar facially, dorsally, in a favorable way, continue the full exercise.

These four phases, performed technically correctly with the outfit, ensure the success of the element, and have as their main purpose, after GRIPPING the bar, the continuation of the exercise with:

- 1) A connecting element
- 2) A technical element, in direct combination.

These variants of combinations ensure the continuity of the exercise, as a unitary whole, which will be appreciated emotionally as well as valuable by the spectators and the technical arbitration committee.

Currently, the integral uneven bars exercises are dominated by three technical groups of actions by dismount with a transition to the upper bar, which have as a common technical basis, elements (variants) from a back rotation near the bar as the main action and completions specific to each group.

In order to have an overview of the transition elements, short technical presentations are required as the basis for discussions, analyses, comparisons and involvements.

The technical procedures through separation and transition to the usual upper bar, are consisted of:

1-launching into a floating support with entry on a rotation variation near the bar as a run-up action plus main actions specific to each group and:

2-Detachment and flight through:

- 1) Under facial balancing,
- 2) Dorsal flighty; 2- dorsal flight with 180 returns,
- 3) Hecht with 1 facial flight; 2 facial flight with return 180.

III. BRIEF TECHNICAL PRESENTATION OF CLASSIC DISMOUNT

The run-up, this action is common to the three dismount groups and is treated identically. From launch to floating support and to enter a rotation variant near the bar (freewheel, wheel on the soles, close, far Stalder) achieved by:

- 1) Launching with the body straight or slightly sucked, to floating support with the dynamic action of a double blocked pat from the lower train 1 up (the upper train and the bar are energetically loaded) 2 down when.
- 2) Launching with the body in extension towards floating support when acting by forcing the extension 1 up with the lower train (it energetically loads the upper train and the bar) 2 down, when enter on the downward side of the rotation (regardless of the element), energy is accumulated from kinetic forces necessary for separation.

And from the low vertical projection of the small bar, the gymnast orients the *main actions* and acts in energetic steps through the extension and flexion of the body, or vice versa (Hecht) forwards backwards (depending on the element) which generates the *flight* and projects the gymnast with the upper train towards high bar, dorsal facial with or without a 180 turn (depending on the element) and GRIPS the bar, swinging forward or backward.

This brief presentation of the current dismounts with transition to the upper bar, shows the difficulty and complexity of these elements and hence the need for new actions of transition to the upper bar, more accessible to the great majority of gymnasts.

IV. PRESENTATION OF THE NEW DISMOUNTS

Sports gymnast *Tomescu Cristina* of Steaua Club achieved a dismount with the upper bar transition in two technical versions, which she -presented in the National Championships stages, with a full exercise.

A. The First Technical Version of the New Dismount D. 1

From the support, swing to the floating support with locking-release- passing the feet through the far side on the top of the bar and from the thighs back on the bar –dismount and transition through the flight to the upper bar Fig.1.

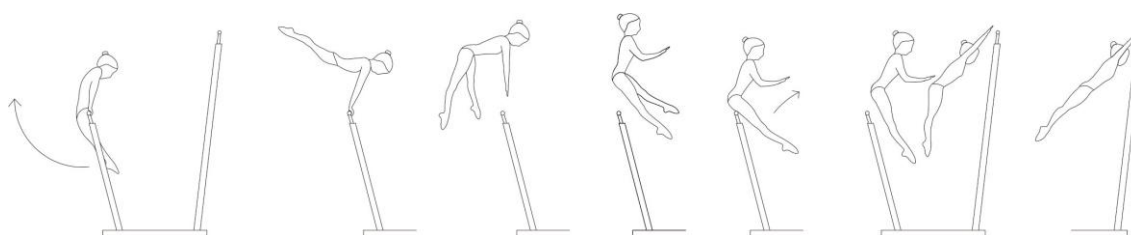


Fig. 1. From low bar support and from dorsal hitting on the thighs with spread legs with transition to the upper bar.

1) Technical description

From support on the low bar, positioned facing the high bar, the body square to take RUN-UP through:

- 1) Swing towards a floating support, with the body slightly in flexion or extension, with sweeping from the feet, completed with a blocked up hit 1 in slight extension, followed by a down hit 2 blocked, simultaneously with pushing the bar down from arms, actions leading to THE MAIN ACTIONS-performing a separation up and over the bar, simultaneously with the passage of the legs through the far side above the bar, with their approach on the downward side completed at the moment of hitting with a shock, percussive (like on a trampoline) energetically, on the bar with the feet dorsally on the thighs (the body in a square towards a right angle slightly bent forward, the arms as a balance), an action that will arch the bar due to the force of the hit and the weight of the gymnast, followed by the response of the bar through relaxation, push up briefly from the legs and enter on release with FLY-the gymnast being projected obliquely up and forward, the body straightens, the arms go up and the upper bar is GRIPPED in an oblique position with the entry on the swing hanging forward.

B. Aspects of the Preparation of the Element

1) Special physical training

The exercises from the technical training will be performed.

2) Technical-methodical training

For RUN-UP: -from support on the low bar spring, locked swing to floating support, completed with release above the bar (oblique body)- with and without help.

For the MAIN ACTIONS, FLYING AND GRIP:

- 1) In the competitive elastic net - hitting the horizontal net facially, release with the legs passing through the side, with their approach, the action is completed at the moment of the dorsal hit, the body in square, followed by displacement forward with flying, and return to the stand.
- 2) From square support with the legs between the arms and the bar, the elimination of the support, through a slight push in the arms, kicking the legs on the dorsal thighs, release, fly and grip the upper bar (closer bars and increased elasticity, from the anchorage)
- 3) The same exercise as the previous one, but with the legs apart from the support of the square.
- 4) The element is performed in easy conditions (close bars with increased elasticity) with little help and gradually only the assistance will gradually reach the executions in normal working conditions.

C. The Second Variant of the New Dismount D. 2

Presented by the gymnast *Tomescu Cristina* in the National Championship stage D.2) from the support on the low bar, oriented on the back towards the upper bar, balance to the floating support with release turning 180 above the bar, followed by a back hit on the thighs-dismount and transition through the flight-to the upper bar.

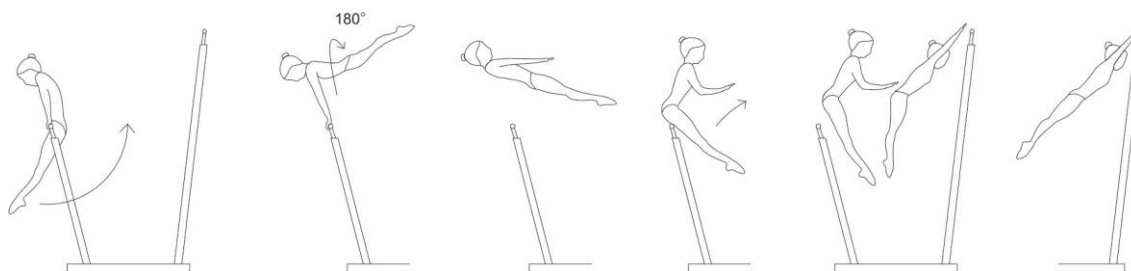


Fig.2. From support and from hitting the thighs dorsally with the spread legs and moving to the upper bar.

1) Technical description

From support on the low bar, dorsally oriented and the body squared, THE RUN-UP, is performed the same as the previous dismount, through the two technical variants, finished with a downward hit 2 blocked with a twist, simultaneously pushing from the arms and enter on THE MAIN ACTIONS release up and over the bar, the straight body slightly oblique, tense, the twist from the legs is transmitted to the body, it is also taken over by the arms, it turns into a 180 turn, followed by the flexion of the body in a square slightly bent forward, on the downward side of the first flight and kicks (as if on a trampoline) with the legs dorsally on the thighs, locked on the bar, an action that leads to the arching of the bar under the force of the kick and the athlete's weight, followed by the stretching of the bar, a short push from the legs, the dismount is entered on FLY- the gymnast being projected up and forward, the body straightens, and the arms go up and the upper bar is GRIPPED, with the entrance on the swinging in hanging forward.

D. Aspects of the Methodical Preparation of the Element

- 1) Special physical training with elements from technical training*
- 2) Technical training*

For RUN-UP from support on the bar, the actions of the run-up, with a blocked hit 1 up and 2 with a twist from the lower train, followed by a release with a 180 turn on the fly, and landing in a straight line (with the back to the bar). For the MAIN ACTIONS-FLYING-GRIPPING:

- 1) At the competitive elastic net, hitting the net face horizontally with the main actions flying with a 180 turn, the body in square, hitting on outstretched legs, flying and landing in a straight line.
- 2) Taking over some exercises from the methodical preparation of the first execution but adapted to this dismount.
- 3) The element is executed in easy conditions with help and assistance, with their elimination gradually, until it is done in normal working conditions.

V. DISCUSSIONS

First competitive years as small juniors, the integral uneven bars exercises include transition elements made from squat support as the first stage, followed by the back wheel completed in squat support, jumping and transition to the upper bar.

From support on the low bar, face-oriented, from the run-up, the legs are stretched out on the bar and between the arms one enters: -

- 1) Wheel on the soles backwards, completed in squat support followed by the flying jump and the upper bar is gripped.
- 2) Simultaneous exchange of grips, grip from the bottom, wheel on the soles forward, completed in a squat support, followed by the jump and transition to the upper bar.

A. Wheel on Sole Backwards

In cp no. 5.108, element no. 5.108 -, sec, wheel on sole backwards is presented, with a code value of a. For a junior girl and not only, the wheel on the soles with the legs outstretched and transition to the upper bar through the jump, represents the only practical option to present a full uneven bar exercise, which can be refereed. This element can only be performed from run-up-made from minimal balance in floating support, or a technical element completed in floating support or handstand. Perform a wheel on sole backwards with the legs outstretched, completed in support on the soles, followed by a jump, fly and grip the upper bar. To add color to the exercise, this element can also be performed with a dorsal departure from the upper bar, and at the end of the wheel, the transition will be a backward jump, with a 180 turn on the flight from which the bar is gripped.

After this element, from the wheel on the soles, in which (the motion; jump with transition to the upper bar are omitted in the cp) further are presented in the cp, the elements that make the transition to the high bar through - rotation approaching the bar and dismount.

VI. ON THE CURRENT DISMOUNTS MADE FROM THE ELEMENT WITH ROTATION NEAR THE BAR

A. On the Dismount Through Facial Under swinging

They can be performed very well from all four elements with rotation near the bar. Statistically, the performances from the wheel on the soles, close far Stalder, free wheel are prevailing. A well-prepared junior young woman, with an average technical background, but well appropriated, can achieve a transition through under-swinging, being the only element of value B in CP no. 2.206; 4.205; 4.208; 5.207. Even if they have a low B code value, however, they are difficult to perform effectively, requiring the gymnast technically and physically with a substantial effort to achieve a flight with ample effect and a good run-up forward.

B. On the ismount with Dorsal Flight

Spectacular element, presented by the famous gymnast SCHAPOSCHNIKOVA from the Russian Federation who took it from the men's gymnastics, from the parallel bars, - Tkachyov - back fly release and adapted it technically as a transition. Initially the element - Tkachyov release - was presented from the gigantic circle back, followed by the achievement of an element with rotation near the bar and here is the element adapted and showed as a transition from one bar to another, uneven bars women.

The methodological way of learning the dismounts with dorsal flight, no matter what and for which purpose, both women and men, the most important methodological algorithm is present dismount with dorsal flight, but this methodical exercise (performed more or less slightly overturned front to back), with a little work and attention it can be achieved with a landing in straight line, so it clearly has a technical base

for descent and as a technical interpretation of this achievement, it should be considered as being a hecht, but with dorsal flight Fig.3 this it is a simple, concrete and conclusive demonstration of the origin and the class to which these elements must belong.

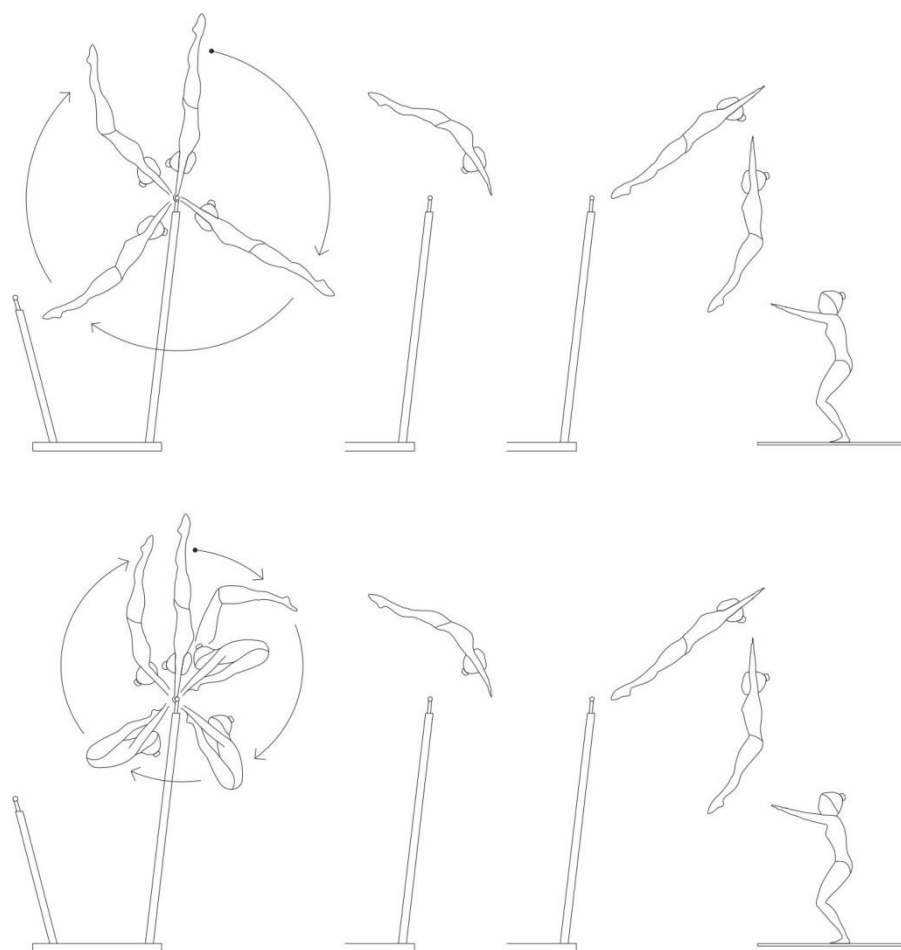


Fig. 3. From a backward launch, or from a wheel on the soles backwards descent through dorsal Hecht.

Presented as a descent, the dismount, would impress and surprise, through the amplitude of the dorsal flight over the bar (m), upper (f), of the execution variants and must be recognized in cp as a new group of descents through dorsal Hecht both in men and women gymnastics. Of course, all dismounts with dorsal flights finished with re-gripping or gripping the top bar must be present in the technical descriptions in the cp. As dorsal flight Hecht with... And re-grasping or gripping the upper bar.

At present, the main problem of this dismount with the transition to the upper bar, are the technical methods with which it can be combined after the upper bar is attached (dorsal in the top grip and swing back). It cannot be accepted that from an integral exercise of value, with not such a high-amplitude element, swing back and forward, hanging and a technical element of release with re-gripping or dismount with transition to the low bar; or swing back, completed in floating support and a technical element, with back rotation near the bar. (Returning and the run-up from the intermediate swinging helps the gymnast on the dismount and this must be penalized). Practically, no matter how one looks at and interprets this situation, there is a rupture, a disagreement of continuity in full exercise (not penalized), clearly noticeable by specialists, but accepted by FIG.

A technical VARIANT with good cursive, is to perform a 180 turn with entrance directly in one direction (it is not simple) on the back swing. This combination is cursive, aesthetic, effective and fits perfectly into the exercise. For this solution, there are two technical options after the bar is gripped:

- 1) In the TOP GRIP and in the back swinging, TURN 180 as a kind of direct exchange-(Braglie) but under the hand. A mixed grip will result from which the gymnast enters directly on a straightening variant.
- 2) In the MIXED grip - on the swing back, TURN 180 on the arm with the grip- grasped from below - and on top of that, a double grip - grasped from above - will result, from which the gymnast directly enters a straightening variant.

Of course, the variant that from run-up back with tamos to enter directly with the extended forward wheel is also interesting.

New technical ways to combine this dismount after the top bar is gripped but once with the of the releases in the parallel bar men, the full exercise was continued after the re-grip with a simple straightening in support, a complex more valuable version also appeared. From the swing forward, a blocked kick with the legs up and slightly above the horizontal bar (about as much as the swing allowed after the re-grip) simultaneously with the arms pressing down on the bar, an action that creates an ideal moment to perform a small release and flight, when the grips are changed from the top grip to downward gripped for re-grasping and at the same time the technical possibility of easily entering directly straightening in support was created. Incomparable technical variant more valuable and presentable than a simple straightening. A first example and a second example. In the women's cp there are climbs no. 1.102; 1.204 1.304, but these elements can also be interpreted as releases. After a 180 turn on the flight, there follows a dorsal flight section from which the bar is gripped in the lower grip or mixed and easily enter directly straightening if these two examples, which are basically identical on the last sequence of the flight when the bar is gripped -grasped again, the bar in the lower or mixed grip and with dismount with dorsal Hecht and transition to the upper bar - then - it can be concluded that from this element the upper bar can also be lower or mixed gripped. In this grip, due to the very good palmar support, the real possibility is created to exercise a strong pressure in bringing the arm in front up to bottom on the bar, incomparable more efficient and safer than a top grip grasp finalized in hanging on the bar.

The taking over and technical adaptation (bota t.) Of actions to grip the upper bar in the two new grip modes provide radical biomechanics and technical change for the future combinations that can be achieved.

C. As Methodological Preparation

In parallel bars men, from swinging back to hanging on a bar and after a short counter kick from the feet, release the dorsal flight and grip the bar from the back in the grip from the bottom or mixed (what is convenient)

- 1) A backward jump towards the low bar (dorsal), overturned, with the body towards the horizontal, with the grip of the bar in the bottom grip or mixed and straightening, with or without help. The first example is also good methodical exercise.

From this grip, the gymnast can enter directly in a combination with:

Straightening in support, (the most beautiful and efficient straightening, technical elements, and procedures from hanging inverted (variants), rotations near the bar (variants) what combinations.

From a wider dorsal dismount with a vertical force of the legs in flight and after gripping the upper bar in the bottom grip and strong pressure on the bringing in front of the arm, a good semi launch forward can be entered (in terms of amplitude, height, for the run-up) plus energetic actions of swing backwards can be completed directly with: dismounts with flying over the bar, 360 pirouette, salto forward; descent through salto forward; gigantic circle forward. (What combinations).

Of course, a dorsal transition with a 180 turn on the fly will create the prerequisites for an entry on a straightening variant or an overturned hanging element.

Element of great spectacular value, (the solution would be, adapting the technique of turning 180 of the cats, from falling on its back and landing on its feet). An idea would be, that after turning 180, to take over the upper bar on the ascending part of the flight, completed with- an energy flexion from the body with pressing down from the arms, which will take the gymnast in floating support and... (Dreams?).

D. On Dismount through Facial Hecht

This separation comes from the descent with the same name -HECHT-, which was done from the wheel back to the abdomen, when the bars were close. The element acquired a connotation and developed, being made especially from the free wheel. In CP it is presented as: a descent; release with close feet, progressive 180 turn and re-grasp; dismount with transition to the big bar.

As a dismount with a transition to the upper bar, the element is technically and physically demanding, having a good code value D, but statistically, few present in the integral exercises. Statistically, the best performances of the element are from the free wheel and very few from the wheel on the soles. In the rest, those from close and far Stalder, even some executions from the wheel on the soles, seem to be some jumps with the body in a square followed by a distance of the legs (of course, some improvised ones) and transition to the high bar.

1) Hecht Cu Turn 180

This element can be capitalized and saved from oblivion if we realize that it is similar in the flight phase with the climbs from cp. No. 1,102; 1,204; 1,304 and the upper bar is gripped but in the mixed or lower grip with the direct entrance the straightening in support. Technical achievement remarkable for value and continuity. It will be taken over and adapted (bota t) the technique of gripping the upper bar in the new grasp with strong pressing of the bar on the bringing the arm in front to directly enter the straightening. This new element as a technical way to present Hecht with a 180 return with a freewheel dismount will create new opportunities for combinations with FACIAL directed dismount towards the upper bar. The

training methodology, you will keep the exercises presented from the DORSAL FLIGHT HECHT and the one for CLIMBS with a 180 turn. In parallel bars men, from forward swing on a bar, counter kick from the lower train, dismount, and transition to the front bar with the grip of the bar in the mixed grip, turn 180 and miming straightening in support. As a general idea, all these dismounts made from an element with rotation near the bar, when "the gymnast is projected, or project herself" (expression used in technical descriptions) must be seen as a slingshot action and effect (DAVID's), the gymnast being both a slingshot and a projectile.

E. About The Elements by Dorsal Kick on the Thighs

When the bars of the apparatus were close, some transitions to the upper bar were also performed by straightening in square support with the legs close between the arms and the bar, square spread legs support, followed by a short hit with a push into the bar from the dorsal legs on the thighs, used as an swing and transition to the upper bar.

Also, in the CP, element no. 1.203 is presented, which puts the gymnast in dorsal support. So, hitting and pushing from dorsal support on the thighs, is not a technical novelty and becomes an argument for these elements to be accepted as such, as unique ways of transition to the upper bar.

In the case:

1) Of the first variant of transition to the upper bar by hitting the dorsal thighs

We were looking for a technical solution, more valuable than a wheel on the soles backwards, for a second transition in the gymnast's full exercise, and the inspiration came from the play of some young gymnasts in the elastic net who imitated an element from the parallels-Greek a release with passing the legs through the side with a slap on the thighs dorsally with separation and landing in the stand. I explained the idea to the gymnast, junior category 1, who was a motorist with a special feeling for this apparatus, cooperative, motivated, and enthusiastic, in a relatively short period of time she realized the element, which she presented in the CN.

In the case:

2) The second option of transition to the upper bar by dorsal hitting of the thighs, from the 180 turn

Those gymnasts, during the game, threw themselves face-first into the net, followed by a release, turned 180, hit their thighs dorsally in the square, released and landed in the straight line. I realized that this play can be used in a new version of the release by hitting the thighs dorsally but with a 180 turn. With the experience gained previously and keeping a similar methodical path, in a short time, the gymnast T C realized these plays as a new element of transition to the upper bar and presented it with a full exercise, in the National Championship stage.

It is normal to get a very good horizontal support on the low bar from running, kicking on the trampoline, from which you can enter a version of the release, facial with the feet through the far side, or dorsally with a 180 turn - release, kicking on the thighs dorsally and dismount with flight transition to the lower bar. This is how a new group of climbs from the low bar with pass to the upper bar will be achieved.

After a while, I overcame the barrier given by the routine and the habit of performing these elements with push-ups from abdominal support on the low bar, so from the bottom up and I looked imaginatively at the releases, starting with push-ups from handstand, so from top to bottom. The ideas were put into practice, under easy conditions, with a launch from the handstand, slightly braked, with the specific actions of the run-up, and gradually in a short time, it arrived at cursive executions d.1.2, thus it is possible to certify a new superior variation (in terms of value) of transitions to the upper bar through dorsal hitting on the thighs on the bar, with departure from stand on the hands Fig.4 and Fig. 5 separately as well as at the end of a combination. for objective reasons, I could not present these technical methods in the CN.

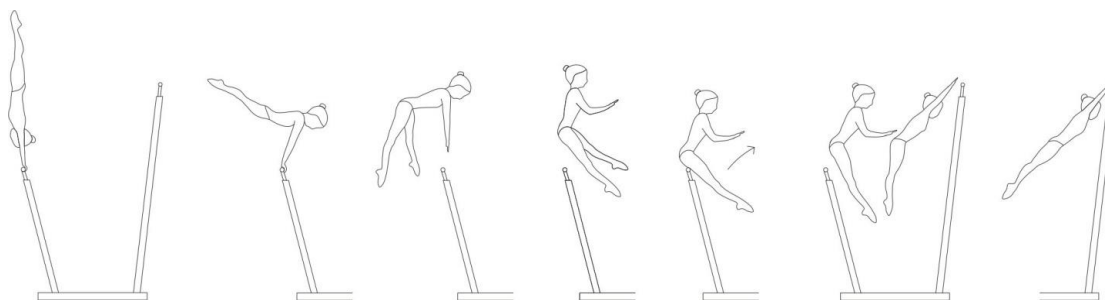


Fig. D.2.1 From handstand run-up and from the dorsal hit on the thighs with the legs transition by flying to the upper bar.

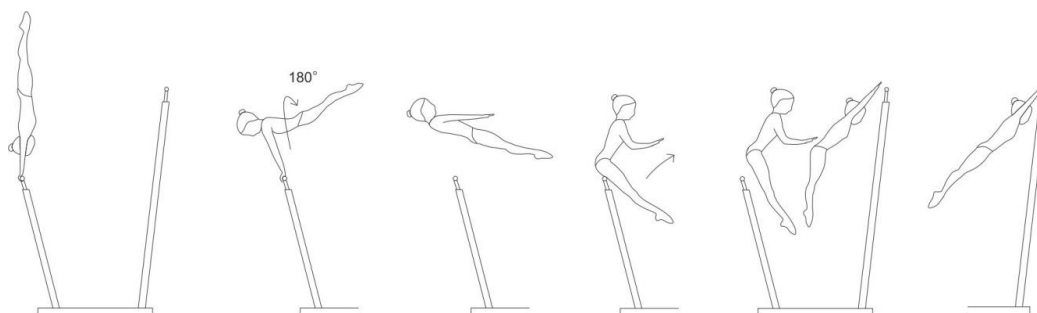


Fig. 5. D.2.2 From handstand run-up and from the dorsal hit on the thighs with the legs, dismount and running to the upper bar.

If we consider that men inspired the releases, I convinced a young gymnast to also perform them from the handstand to the parallel bars - complete success. A method that can become beneficial in the structure of a full exercise.

VII. CONCLUSIONS

The elements that make transitions from the low bar to the upper bar must be adapted to the requirements of composition, safety and continuity depending on the technical and energetic possibilities of the gymnast.

These elements in a simple description by phases, will also show you the methodical path that must be followed and what technical aspects will be insisted individually with a gymnast in performing the element.

Taking some algorithms from the technical-methodical training by phases and using them, in special physical training, in circuits and evenings, for an intensive learning of the element.

The definite possibility of forming a new group of descents through the dorsal Hecht with swing from launch to hanging or a back rotation near the bar.

The need to change in the cp the presentation of elements with dorsal flight as... Hecht with dorsal flight.

The definite possibility of forming a new group of transitions to the upper bar through dorsal hit of the thighs in two variations performed in the two directions dorsal facial, from floating support and standing on the hands.

Taking over these technical procedures by the gymnasts and adapting them to the uneven bars in new technical interpretations from the stand on the hands launch in support with release and flight by:

- 1) Apart from the feet.
- 2) 180 turns completed in support, or in other technical variants.

The actions of flexion and extension, from the upper and lower train, short with a blocked hit (as in the fish tail), must be technically and physically prepared in the general way, early, later with left-right twist in executions from the stand, standing horizontally with upper and lower dorsal facial support on the left, right side, lying down, standing on the head and on the hands.

The need to present in the cp the element wheel on the sole backwards and in the variation of transition to the top bar.

REFERENCES

- Neagu Gh. (2021). *Aspects of the preparation of the elements that make transitions from the low bar to the high bar* [Aspecte din pregătirea elementelor ce fac trecerile pe bară joasă la bară înaltă] Physical Education Publication.
- Dragnea A. (1996). *Sports training* [Antrenament sportiv]-Didactic and Pedagogical Publishing House, Bucharest.
- Dragnea A. (2002). *Theory of sport* (Teoria sportului) Fest Publishing House, Bucharest
- Bota. T. O. (2001). *The theory and methodology of sports training periodization* [Teoria și metodologia antrenamentului sportiv periodizat] Ex Ponto Publishing House Bucharest.
- Women-s Code of Points-2021–2024
- Men-s Code of Points-2021–2024
- Baciu C. (1977). *Functional anatomy and biomechanics of the musculoskeletal system* [Anatomia funcțională și biomecanica aparatului locomotor]. Sport-Turism Publishing House, Bucharest.
- Buzescu A. (2002). *Anatomy and biomechanics* [Anatomie și biomecanică]. A.N.E.F.S. National University of Physical Education and Sport Publishing House, Bucharest.
- Predoiu R. (2016). *Psychology of Sport* [Psihologia sportului]. Polirom Publishing Housepliz design Vrabie Cristina.