Knowledge Base of Traditional Dances



2018

LabanGraph User Guide

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Introduction

LabanGraph was created to help with editing and publishing dance scores created with the Laban system of notation called Kinetography Laban or Labanotation. It runs under the AutoCAD software (from version 2010); the source code was written in AutoLISP language by János Fügedi. LabanGraph provides functions to insert and manipulate notation symbols with a focus on a fast editing and creating high quality prints.

The present user guide assumes the knowledge of kinetography therefore it does not provide information on the symbology and use of the system. Users should have a basic familiarity with AutoCAD before starting to work with LabanGraph—particularly the **Copy**, **Move**, **Erase**, and **Zoom** functions. Users should also know how to set the grid, change snap modes, call up or hide tool palettes, and terminate running commands.

After LabanGraph is installed, two tools are available in the opening screen: a tool palette, which presents the MAIN TP and may be positioned as in figure 1, and a row of panels in the AutoCAD **Ribbon**, if the LabanGraph tab is selected. The horizontal size of the panels' row is optimized for the HD screen resolution (1920x1080); if the screen resolution of the user's computer is smaller, some panels may be comprised, and their functions can be reached only by extension as a panel's (more) icon is clicked. The tool palette can be dragged anywhere on the screen. The palette's size can be adjusted as discussed in the "LabanGraph Installation Guide" (entry 11i). The panels in the LabanGraph tab can dragged from the **Ribbon** onto the editing screen as shown in figure 2. However, it is recommended to leave them in the **Ribbon** not to interfere with editing notation.

When graphical elements are inserted into a drawing, text messages may appear at the crosshair cursor. Use the F12 function key to toggle between displaying and hiding these tooltips.

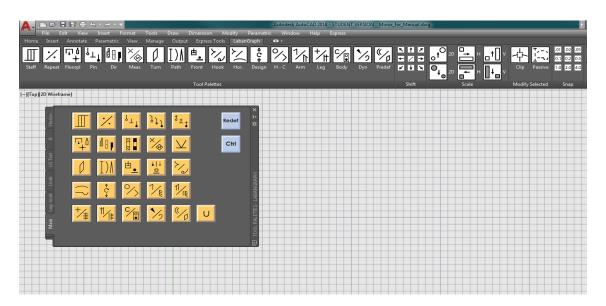


Fig. 1

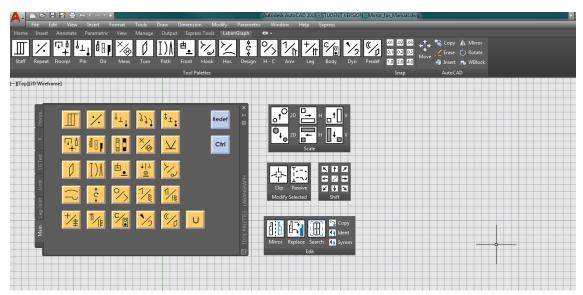


Fig. 2

LabanGraph Tool Palettes

LabanGraph's control system is based on a set of tool palettes (abbreviated in the following as TP). Only one is available at a time; they operate as menus layered on each other. It may be easier to follow the detailed discussion of LabanGraph's functions and drawing possibilities, if they are tried immediately in AutoCAD.



The Main TP, shown in figure 3, appears at startup and provides a directory of symbol and function groups. If Main TP is not visible, type **main** into AtuCAD's command line.

Clicking a yellow button calls up another tool palette, which replaces Main and visualizes a menu of specific functions or individual notation symbols. From the approximately 2000 distinct symbols of kinetography only approximately 1300 are defined in LabanGraph. The functions of each button as explained below.

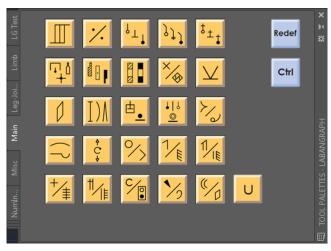


Fig. 3. The Main TP.



STAFF TP

Editing scores usually starts with defining the staff. The "Staff" button calls up the subpalette shown in figure 4. The first row offers selections with the indicated measure structure, 2/4, 3/4, 4/4, 3/8, 5/8, and so forth. Pre-defined staves are available only with the indicated values (at present, parametric definition of staves is not an option). Once a measure structure is selected (for example 2/4), the tool palette changes to a numeric list as shown in figure 5 (Nums TP). The upper section offers selection for the number of measures in a staff from 1 to 18. When the desired number is selected (now 4), the outline of the staff appears at the crosshair of the cursor as shown in figure 6. The staff can be positioned where needed; the next click inserts the staff in the drawing at the actual position of the cursor. The numeric tool palette changes back to STAFF TP.

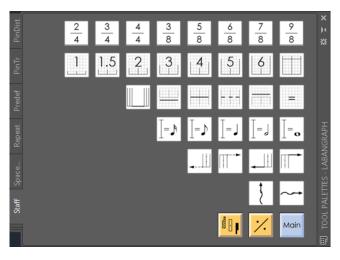


Fig. 4. The STAFF TP.

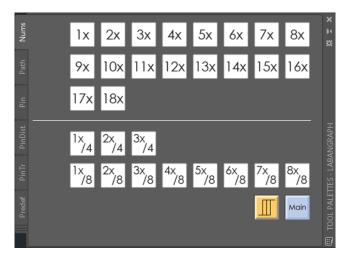


Fig. 5. The Nums TP.

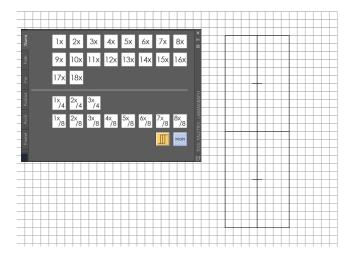


Fig. 6. Inserting a staff.

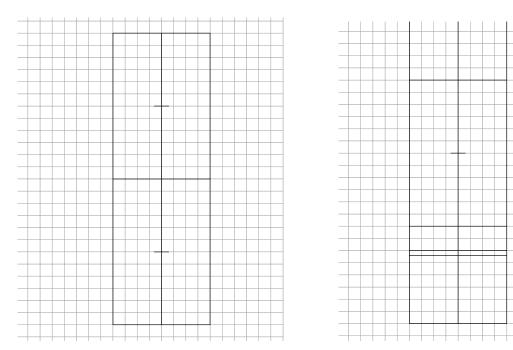


Fig. 7. Width of a staff, length of a beat.

Fig. 8. Starting position and upbeat.

The second row of the STAFF TP offers selections for upbeats. The numbers represent the length of an upbeat in a grid measure. If a button is clicked, the upbeat appears at the cursor, which can be positioned to the desired place. Clicking the last button in the row initiates the starting position with the starting bar line. The beginning of a staff with an upbeat and a starting position is shown in figure 8.

The third row of the STAFF TP offers options for parts of staves which may be needed when a score is edited. The first graphical element in row 3 offers a possibility to draw the attaching line of staves for different persons. The next four buttons are for inserting a continuous or dotted measure line. When the first or the last of the four measure line buttons are selected, the lines appear below or above the cursor position; the pre-defined distance speeds up inserting the starting or the finishing double bar lines of a staff. The last button represents the small double lines to separate presign indications from the timing of a movement.

The fourth row of the STAFF TP provides solutions to re-evaluate the beat length. When an button is clicked, a complexity of a one beat length path sign, and equal character and the musical note corresponding to the selection appears at the cursor. As shown in figure 9, the evaluation of a beat to a musical \downarrow is inserted at the start of the staff; re-evaluation is often needed for fast dances rich in movement details such as the *legényes* and certain *verbunk* dances in East Central Europe. The musical notes are pre-designed fonts, created to represent different rhythms in text. Rhythmus.ttf needs to be added to the Windows font library. It can be downloaded from the LabanGraph homepage..

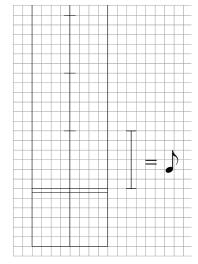


Fig. 9. Re-evaluation of a beat.

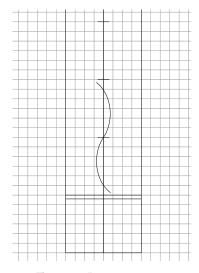


Fig. 10. Inserting an ad lib sign.

The buttons in the fifth row serve to draw the extensions of measure lines for repetitions at the bottom left and upper right corners of a staff. The lines can be continuous or dotted. Even though horizontal lines can be drawn by the 1. button of the third row, or even by the **Line** command of AutoCAD, it is recommended to use the appropriate button for such purposes. All signs and elements of kinetography are indentified by a unique ID in LabanGraph, which may be used later in specific commands or functions to search or check notation. If the graphical elements are not identified as expected, the added function will not work properly.

The sixth row of buttons is used to draw *ad libitum* signs. When a button is clicked, a small vertical or horizontal ad lib sign appears at the cursor. Once positioned in the desired place and clicked again, the icon symbol disappears and a rubber-band rectangle takes its place. As the cursor is moved, the size of the rectangle designates the length and width of the ad lib sign—see a vertical version in figure 10.

If not a complete measure, but a certain number of beats is needed only, start defining a staff with the measure structure as before (first line of STAFF TP), then use the options offered in section below the separation line of Nums TP. Six beats of a dance performed to music with 4/4 metrical structure is indicated in figure 11. The 2 beat fraction is closed with a dotted line, for repetition it is elongated to the right.

The colored buttons in the last row of STAFF TP pass the control to other tool palettes that are most likely needed after a staff was created. The "Main" is highlighted in blue as it returns to the menu of palettes, the Main TP.

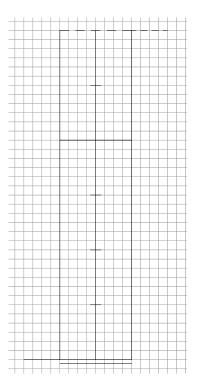


Fig. 11. Beat 5 and 6: fraction of a measure.



REPEAT SIGNS TP

As shown in figure 12, the REPEAT SIGNS TP provides a set of repetition signs. Forms used in Kinetography Laban and Labanotation are included, with selection options without dots to insert the number of repeats.

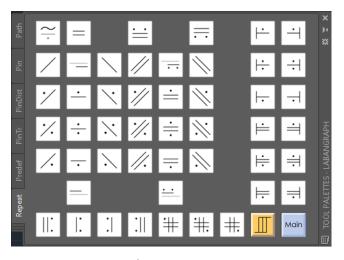


Fig. 12. The Repeat signs TP.



A complete set of white, flat, and black pins with their intermediate variations are available in Pins TP, as shown in figure 13. Their track and distal versions can be called up from the Track Pins TP (figure 14), and the Distal Pins TP (figure 15). Note the colored buttons providing a direct change between pin types. An enlarged picture of pins in figure 16 reveals that the head of the black pin is formulated by concentric circles instead of a solid surface. The reason is portability. When a score is published it may be imported into other software. However, the import functions may lack the ability to interpret AutoCAD solid surfaces, especially if the outline is rounded. The concentric circles print a full disc as required when the line weight is set min. 0.2 points or heavier in the publishing software. The ideal lineweight is 0.3-0.4 points.

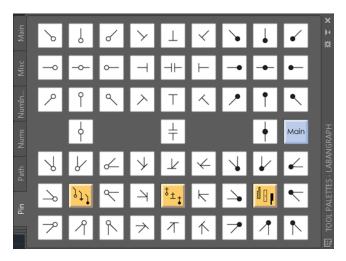


Fig. 13. The PINS TP.

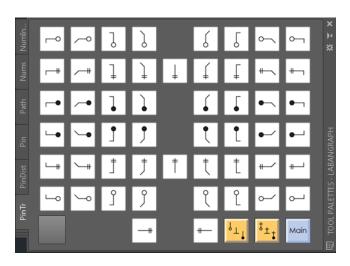
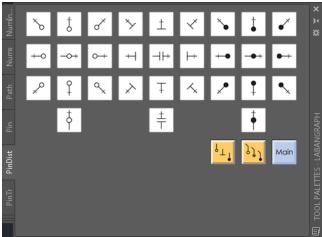


Fig. 14. The Track Pins TP.



TOOI PALETTES - LABANGE

Fig. 15. The Distal Pins TP.

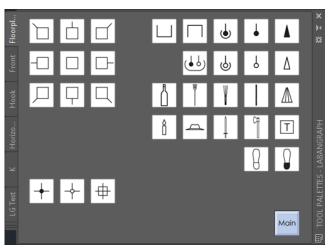
Fig. 16. Pins enlarged.



FLOORPLAN TP

The Floorplan TP, shown in figure 17, is a collection of different groups of symbols. In the left part of the tool palette the general sign for the area and its surfaces can be selected. In the right side, the top two rows serve the editing floor plans. The dimensions of the one side open rectangles can be set with a rubber rectangle, as discussed above. The orientation of a person symbol can be adjusted right after clicking its location in the floor plan, as shown in figure 18.

Several object icons needed for notating traditional dances (such as bottle, broom, stick, kerchief, candle, hat, sword, axe) are included in the tool palette as well, completed with foot prints. The bottom row lists the basic cross of axes, the standard, body, and space keys of system references.





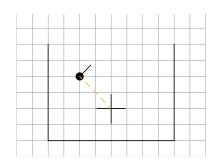


Fig. 18. Orienting a person.

DIRECTIONS TP

As figure 19 shows, the DIRECTIONS TP serves the set of the main directions. When a button is clicked, a 2x2 units (one square) size icon of the selected direction appears at the crosshair of the cursor—see figure 20. After it is positioned to the desired place and the mouse is clicked again, the icon disappears and the size of the direction sign can be set with a rubber rectangle as shown in figure 22. The rubber rectangle defines only the length of the symbol. The width is set automatically to one column, no matter where the cursor is moved width-wise. In figure 22 the forward low direction matches the length of a beat.

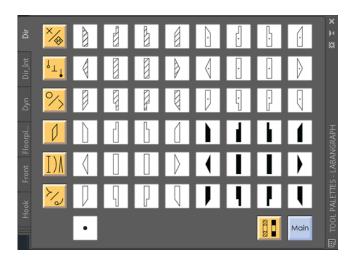
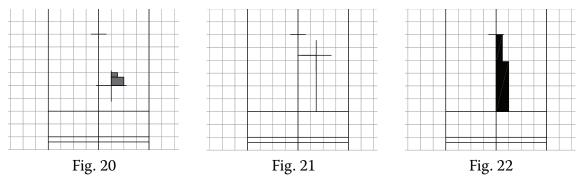


Fig. 19. The Directions TP.



Inserting a direction sign and setting its length.

The DIRECTIONS TP is one of the central tool palettes. To avoid switching back to the Main TP to access a different palette, buttons for the most frequently needed palettes are repeated on the left side of the DIRECTIONS TP.



Intermediate Directions TP

Inserting a low or high level intermediate direction selected from the Intermediate Directions TP (figure 23) needs further symbol definition steps. Defining the location of insertion and the length of an intermediate direction sign is the same as for a main one (figures 24–25), but an intermediate direction with a shaded surface is completed only if two limiting points are defined within the outline of the sign. The limiting points will represent the boundaries of the needed break in the shading of the symbol. The selection of a boundary can be seen in figure 25. If the point is clicked below the half length of the symbol, the lower, if above, the upper section of the sign will be shaded. In figure 26 the first, in figure 27 the second boundary was defined. If the points for any of the boundaries are clicked outside or on the frame of an sign, the function terminates and deletes the symbol. Take care to leave enough distance for the needed pin. The Pins TP is available directly from the Intermediate Directions TP—see the last row of buttons.

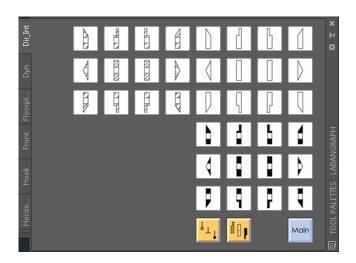


Fig. 23. The Intermediate Directions TP.

Fig. 24

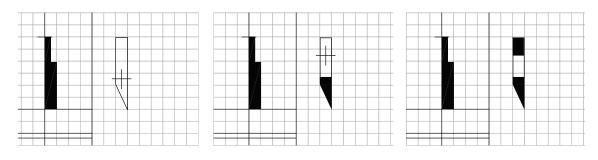


Fig. 25 Fig. 26 Fig. 27.-



Space Measurements TP,



K-signs TP

Figure 28 presents a set of space measurement signs, figure 29 that of K-signs. To give a well-proportioned image for a beat, the size of the signs is set to match the width of a column. These symbols can be resized in case of need. Do not to attach these symbols to the lines of the staff, especially not the wide signs. Figure 30 is an example of a small shift. Functions for fine shifting will be discussed when the functions of the Shift panel is explained (page 28).

Note the cancellation sign of any folding in the center of the K-signs TP.

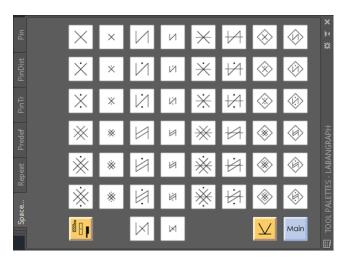


Fig. 28. The Space Measurements TP.

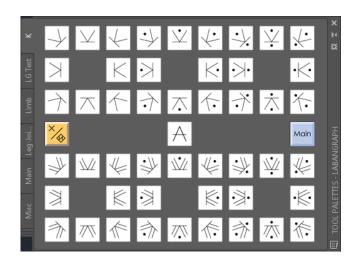


Fig. 29. The K-signs TP.

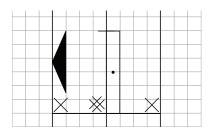


Fig. 30



TURNS TP

The first row of the Turns TP, shown in figure 31, offers possibilities to insert one or two column wide turn, somersault, and cartwheel signs into a score. Figure 32 introduces that as the length of the turn sign is changed, the angle of the slanting closing lines of the turn sign get smaller and smaller. Since sometimes the length of turn signs exceeds two, three or more measures, it is needed to keep the angle within recognizable limits. The functions indicated by broken turn symbols in the second row of the tool palette serve this goal. As shown in figure 33, the angle of the six beats long turn sign equals the angle of the four beats long one. All turn signs created with the functions started with the broken icons are closed with the same angle slanting line of a four beats long sign.

The first three icons in the last row of symbols bring up the small, attached version of turn signs. The dimension of the attached version cannot be changed when inserted, only later. The function of the remaining three buttons is shown in figure 34: each calls up a single symbol either to indicate a turn corresponding to a desired focal front; or a twist within a part of the body; or a rotation of a body part as a unit.



Fig. 31. The Space Measurement TP.

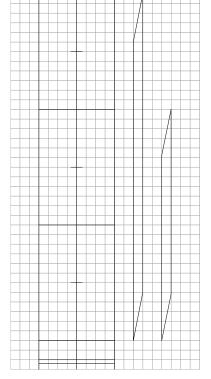


Fig. 33

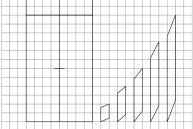


Fig. 32

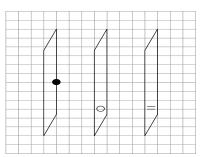


Fig. 34

PATHS TP

The selection set for path signs and for different other signs whose length (and sometimes widths as well) can be changed is shown in figure 35. The first row offers functions to draw path signs. Clicking the leftmost button in figure 35 triggers a function to draw a straight path sign as shown in figure 36. It can be transformed into a passive path by pressing the "Passive" button (figure 37, in the last row of PATHS TP) right after the straight path sign was completed.

A path sign can be clipped by pressing the "Clipping" button (figure 39), right after the path sign was completed. As shown in figure 40, a rubber rectangle can be drawn, which needs to intersect the vertical line of the path sign. The result is shown in figure 41. Passive paths can be clipped as well—see figure 42. If the "Passive" and "Clipping" buttons are not pressed right after inserting a path sign, they are ineffective. However, a path sign can be transformed passive or clipped any time—the method will be discussed later.

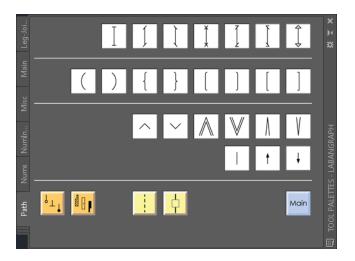
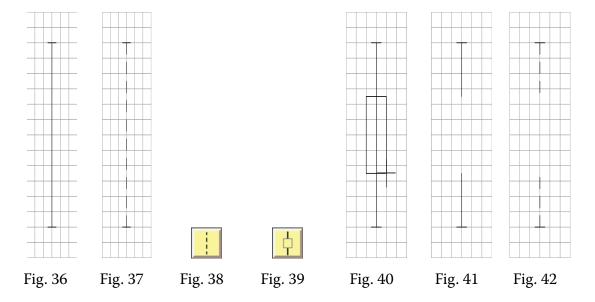
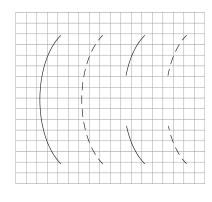


Fig. 35. The Paths TP.



The functions for symbols in the second row of the palette behave the same way as discussed above. A sample for vertical bows and inclusion bows are shown in figures 43–44. While the width of the intention, inclusion, and addition bow is fixed, that of the curved vertical bows follow the width of the rubber rectangle. Note as well that neither the Passive, nor the Clipping function can be applied to the intention bow as such usages are not a part of the notation system.



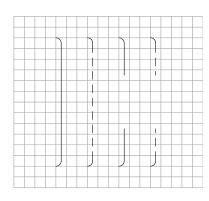


Fig. 43

Fig. 44

Symbols of inward and outward succession, body wave, general cancellation, and approach signs can be selected from the third row of buttons in the Paths TP. The size of inward and outward succession signs is just as fixed as that of the space measurement signs, however, both the length and width of the other four symbols in this row can be set by the rubber rectangle during insertion.

The last row of symbol drawing buttons offers two types of action strokes: the first is the generally applied one; the other two are completed with arrowheads pointing upward and downward. Buttons "Passive" and "Clipping" are in effect for all three of them.



The tool palette in figure 45 shows a selection set for the main and intermediate front signs and for the focal front signs. The COUPLE TP provides symbols for defining the relation definition symbols between two partners (figure 46); a meeting line alone can be selected from this palette as well. The size of all symbols in these two palettes is pre-defined.

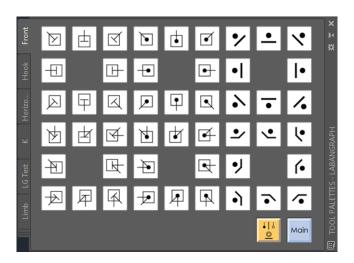


Fig. 45. The Fronts TP.

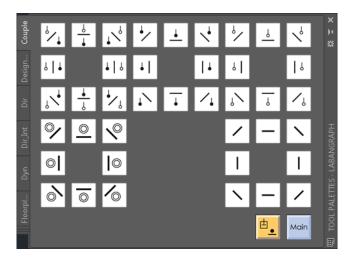


Fig. 46. The COUPLE TP.



Гоот ноокѕ ТР

Figure 47 introduces the set of foot hooks. The upper section of the FOOT HOOKS TP provides a series of options progressing from heel to toe. The buttons show the hooks in mirrored pairs, three in a column. The separated middle section of the TP includes buttons for inserting signs of heel and toe drops and symbols of unspecified contacts.



Fig. 47. The FOOT HOOKS ТР.

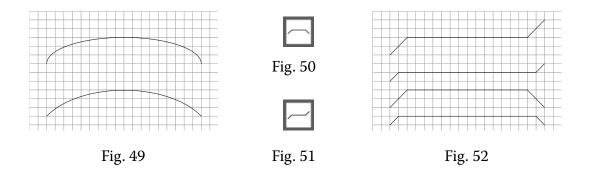


HORIZONTAL SIGNS TP

A set of symbols, whose size is usually changed horizontally, can be seen in figure 48, in two, mirrored sequences. Two types of horizontal bows can be selected: as shown in figure 49, the first one is elliptical, the second is an arc (their mirror images are available in the second row). The elliptical shape bow fits the notation layout better if a long bow is needed; it arrives at the symbols connected in an almost right angle.

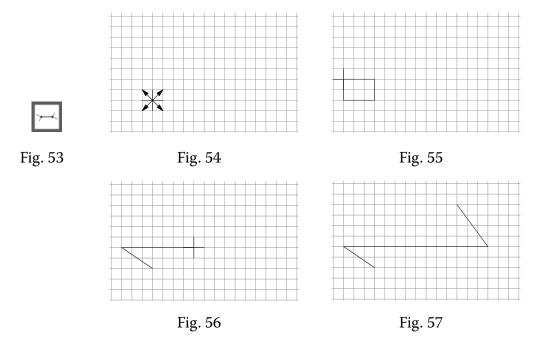


Fig. 48. The Horizontal signs TP.



The shape of the angular horizontal bow (the support sign) can be defined three different ways. The first two options are intialized by pressing buttons as in figure 50 or 51 (or their mirror image). They draw the signs with 45 degrees slanting lines either in the same, or in different directions—see two realization of each with different heights in figure 52.

The third button of figure 53 lets the user define the direction and angle of the slanting lines. As figure 54 shows, after clicking the button (figure 53) for free definition of the support sign, a four-direction arrow appears in the center of the crosshair cursor, indicating that the drawing can be started in any directions. Figure 55 presents the rubber rectangle, which sets the dimensions of the first slanting line of the support sign (drawn bottom up and right to left from the starting point). Once the first slanting line is defined, only a horizontal line can be added (figure 56). Click to indicate the end of the line. The second diagonal line can be defined in the same way as the first one—see figure 57.



The drawing of the addressing sign is started with inserting its bow (figure 58). After the location of the bow is defined, only a horizontal line can be drawn, attached to the appropriate point of the bow. The dimension of the bow is preset, its size can be changed by functions discussed at the Scale panel.

The Passive (figure 59) and the Clipping (figure 60) functions can be applied to any of the horizontal bows (figure 61). To speed up editing, the most frequently applied symbols, the narrow and hold signs are available directly in this tool palette as well.

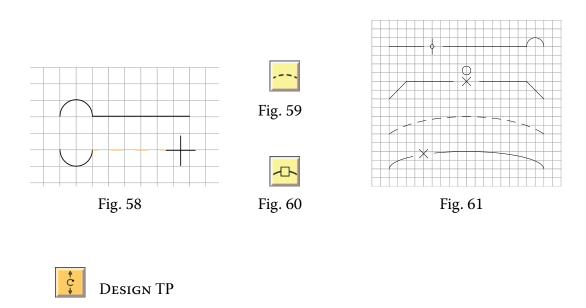


Figure 62 presents Design TP. A design path can be inserted, clipped or changed to passive here just as well as in the Paths TP. In figure 63 a design path for the right lower leg is prepared, the path is already clipped. In figure 64 the floor surface was selected from the palette and inserted into the path. The Design TP is prepared to draw 1/8–8/8 circles clockwise and counterclockwise. When one selected, the starting point of a circle is oriented forward (as shown in the tool palette) and the icon of the image moves with the pointer. Ater selecting a circle, the first click with the mouse defines the location of center point of the circle—see figure 65. A rubber rectangle replaces the icon to help define the radius of the design circle (figure 66). The definition of the design path is finished with the required rotation of the circle—see figure 67. The whole, edited section of the drawing is shown in figure 68.

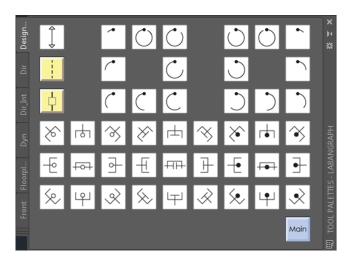
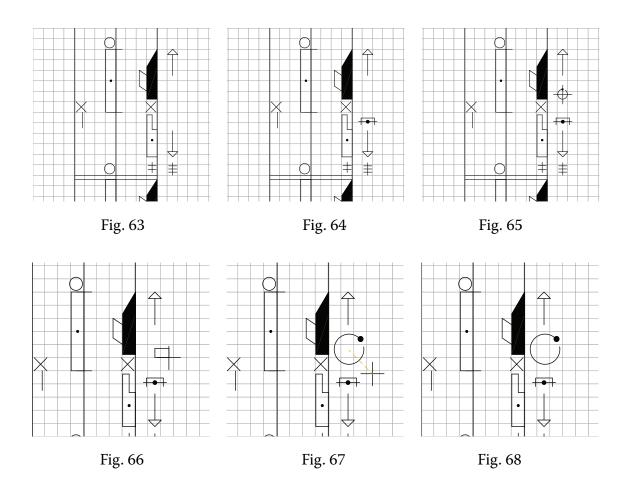


Fig. 62. The Design TP.





RETENTIONS/CARETS TP

The tool palette shown in figure 69 includes different retention signs, cancellation signs, staples, and carets. The size of each is predefined, except for the staple, whose size can be set with the rubber rectangle.

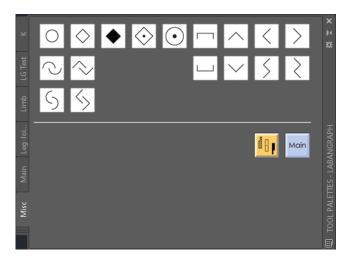


Fig. 69. The RETENTIONS/CARETS TP.

1/1

ARM JOINTS TP,



Leg joints TP

Signs of the joints of the arm can be selected as shown in figure 70. A set of buttons for the joints of the leg are shown in figure 71. Joint signs with dots designate sections above or below the indicated joint.

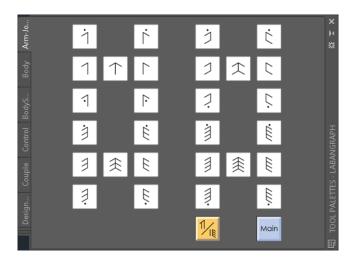


Fig. 70. The ARM JOINTS TP.

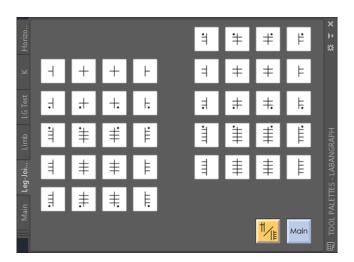


Fig. 71. The Leg joints TP.





LIMBS TP, LIMB SURFACES TP

Both of the buttons in the Main TP invoke the Limbs TP (figure 72). Buttons to call up signs for parts of the arm, the leg, the hand, and the foot can be selected in this tool palette. When a limb or its section is selected, the TP changes to the Limb surfaces TP as shown in figure 73. Use this palette for surface definition, which will be added to the selection. Not every limb or part of a limb can be matched to a surface. For example, an upper arm section cannot be connected with the tip of the fingers. The program will alert the user about an invalid matching. If no surface indication is needed, press the button in the center of the Limb surfaces TP, the general symbol representation of a limb.

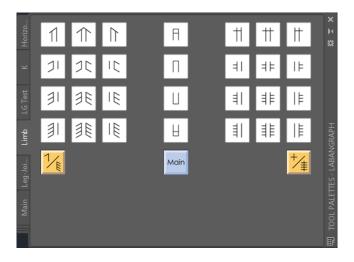


Fig. 72. The LIMBS TP.

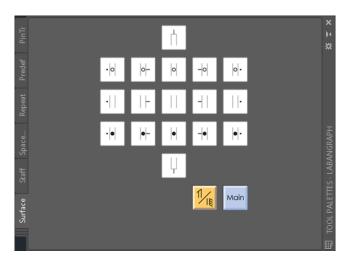


Fig. 73. The Limb surfaces TP.



BODY PARTS TP, BODY SURFACES TP

Figure 74 shows the tool palette for body parts. When a button is clicked and inserted into the drawing (for example the head as in figure 75), the surfaces icon next to the "Main" button (figure 76) offers a possibility to call up the Body surfaces TP (figure 77). The result of selecting the forward (face) surface from the group in the upper section of the TP is shown in figure 78. After the selection the tool palette returns to the Body parts TP (figure 74). Levels can be selected only for the chest and the pelvis. An example can be seen in figure 79.

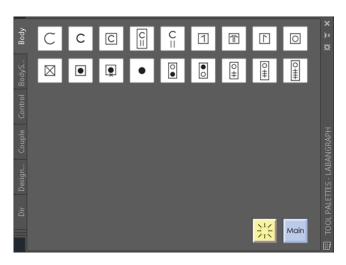


Fig. 74. The Body parts TP.

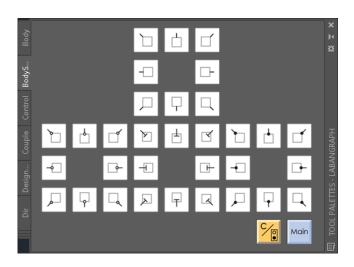


Fig. 77. The Body surfaces TP.

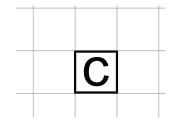
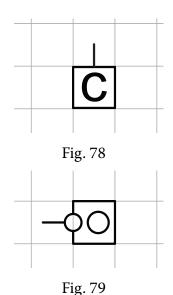


Fig. 75



Fig. 76





A limited set of dynamic signs are available in the Dynamics TP, as shown in figure 80.

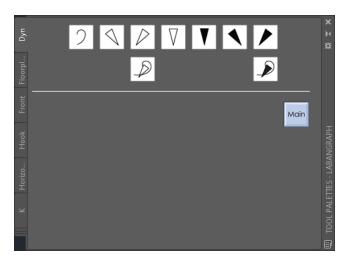


Fig. 80. The Dynamics TP.



PREDEFINED SIGNS TP

The tool palette in figure 81 exemplifies how individual symbols can be combined into complex ones, as required by some special genres of dance. For example, certain Hungarian traditional dance types, such as the *legényes*, apply finger snaps; the abbreviated indication of finger snaps for the left and right hand, including two vertical bows for the sliding contact and a dynamic sign for the sound effect it creates, can be seen in figure 82. The figure also presents the snap without dynamics, or indicated with dotted vertical bows, which is explained in a glossary as imitation of a finger snap.

The middle section of the Predefined Signs TP provides turn signs with or without action strokes. The last section includes horizontal bows for frequent movement types in Hungarian traditional dances such as claps or leg hits, and small inclusion bows to indicate partial weight springs.

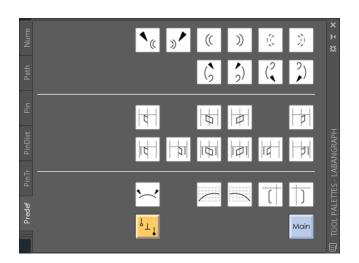


Fig. 81. The Predefined Signs TP

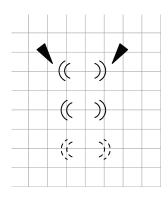


Fig. 82

USER TP

The User TP, as shown in figure 83, is empty, except for a button that returns the user to the Main TP. The User TP demonstrates the flexibility of tool palettes. Any of the buttons defined in the other palettes can be copied here to create a special collection of buttons to access quickly frequently used symbols. For example, to document a score where the dancer follows a circular path, changes focal fronts only between 2 and 8, with small, 1/8 or 1/4 right and left turns, the user would needs symbols to indicate the right and left circular paths and turns, and a limited set of pins. To create the needed palette, let us open the Paths TP, right click the clockwise circular path sign, and select the Copy option from the extended menu as shown in figure 84



Fig. 83. The User TP.

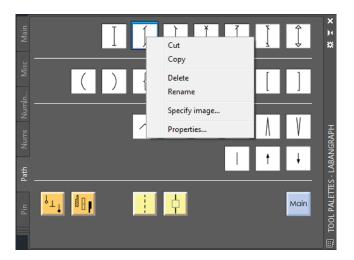


Fig. 84. The PATHS TP.

Change back to the USER TP. Right click anywhere in the palette and select Paste from the menu—see figure 85. After pasting the icon, the USER TP should look like figure 86. These steps can be repeated as long as all the desired commands are collected in the USER TP—see figure 87. To organize the commands ibto groups, select Add Separator from the extended menu as shown in figure 85. Empty spaces between buttons are created by inserting empty buttons. The leftmost empty button in the USER TP is selected in figure 87 to make it visible. The sequence of buttons can be rearranged by dragging them to the desired place. Buttons are right justified. They can be dragged anywhere within a line only if a row is completed either with command or with empty buttons.

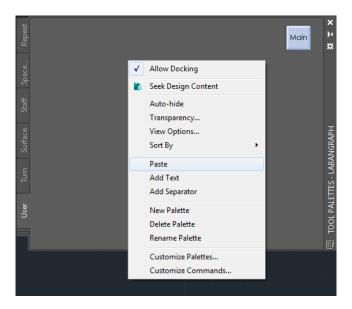


Fig. 85. The USER TP.



Fig. 86. Button inserted into the USER TP.

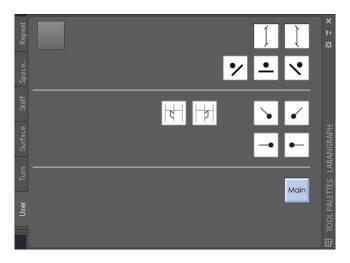


Fig. 87. A possible evolving of the USER TP.



The "Redefintion" button

The button in the right upper corner of the Main TP is needed when the defintions of one or more symbols in the LG_signs folder is changed. A symbol can be redefined due to conclusions of practice to modify its proportions, its structure, or its insertion point. However, the defintion of a symbol is stored in a drawing as first inserted and applies it whenever the symbol is inserted again. If the "Redefintion" button is clicked, LabanGraph compares the symbol table of the actual drawing with the defintions of signs in the LG_signs folder. If it finds discrepancy, corrects the data in the drawing's symbol table and resinserts the corrected sign as requested by the former editing.



CONTROL TP

The button situated also on the Main TP calls up the Control TP. As it is not a menu of actual notation signs, its color is different. The Control TP (figure 108) issues textual command. Its function will be dicussed in the next chapter.

LabanGraph's Panels in the Ribbon

The LabanGraph tab in the **Ribbon** has been introduced in figure 1. In the following its individual panels are discussed in detail.

The Tool Palettes panel

As shown in figure 88, tabs' visibility can be checked as the **Ribbon** is right clicked. The Tool Palettes panel in figure 89 includes a set of buttons with the same icons and functions as the buttons in the Main TP. They call up the subpalettes discussed above; the buttons in the panel serve as shortcuts, quick accesses to tool palettes which may be available only by returning to the Main TP first.

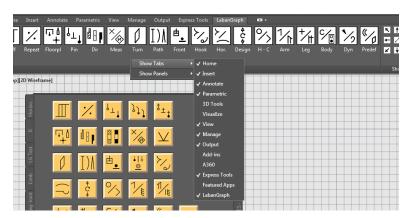


Fig. 88. Setting the Ribbon.



Fig. 89. The Tool Palettes panel.

Shift

The Shift panel is presented in figure 90. The small arrows shift either the last symbols inserted in the drawing, or any other symbol after it was selected into the designated direction.



•

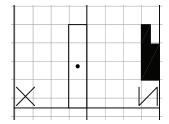


Fig. 90. The Shift panel.

Fig. 91

Fig. 92

For a proper editing the snap mode has to be used. It ensures that the symbols are attached to the lines of the staff or to each other. However, for certain signs it is better if they are not attached to the lines of a staff. When a narrow sign, a hold sign, or, especially, a wide sign is inserted into a staff as shown in figure 91, their outlines would blend with the lines of the staff when the score is printed. For a better view they can be shifted away from the lines of the staff by pressing the appropriate diagonal arrows in the Shift panel. The result can be seen in figure 92. The default shift value is set to 0.25 unit, which results a proper printing view if the line weight is set to 0.25–0.35 (depending on the preferences of the editor). Shift makes also possible a subtle symbol positioning anywhere in the score if it is required.

The shift value can be set by pressing the center image in the Shift panel. It calls up the Numbers tool palette as shown in figure 93. Selecting the required value then clicking the "Enter" button will reset the shift value.

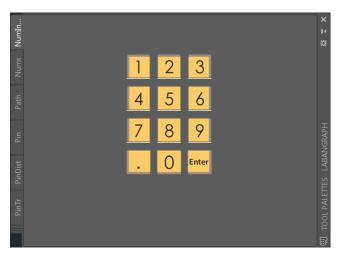


Fig. 93. The Numbers TP.

Any sign can be shifted, if selected. AutoCAD has different selection methods, but the selection of complex signs in LabanGraph requires special attention. A sign is complex if it is composed from more than one individual symbol. For example, a middle level direction sign is composed from the shape of an empty direction sign and a dot. The shading of a high level direction sign is a separate entity in AutCAD. Another group of complex signs are formed by intermediate direction signs and turn signs with pins included, path signs or bows broken and completed with space measurement signs pins—see figure 94. For shifting, select only: the border line of the direction signs; the vertical line of path signs; the horizontal line of bows or address signs. The other signs belonging to the selected one will be shifted together automatically. (Another method to dislocate a group of symbols is to use the **Move** command of AutoCAD.)

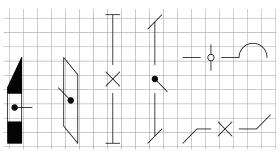


Fig. 94

Scale

The Scale panel can be seen in figure 95. Any one of the six scale functions (2 Dimensional Up and Down; Horizontal Up and Down; Vertical Up and Down) is in effect either for the last inserted sign, or a selected sign.

The first two functions of the panel (2D Up; 2D Down) scale up or scale down a symbol two dimensionally, that is both the width and the height of a sign is changed with the same proportion (upward 1.25; downward 0.8).

The other four functions (H Up; H Down; V Up; V Down) adjust either the horizontal or the vertical dimensions of a sign. The adjustment is performed in steps with a defined measure of 0.5 unit (instead of proportions). Figure 96 presents leg gesture directions; the required half width of the symbols was achieved decreasing the default one column width with the H Down scale function.

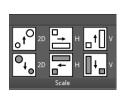
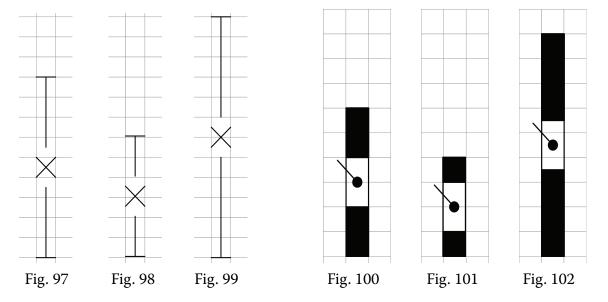


Fig. 95: The Scale panel.

Fig. 96: Half-width direction signs.

Figure 97 presents a straight path sign including a narrow sign. After the vertical line of sign was selected, clicking the H Down button several times results figure 98, then the H Up button figure 99. While the path sign changes its vertical extent, the narrow sign travels with scaling. Note that the size of the clipping is not changed. Similarly, as shown in figures 100-102, the empty section in an intermediate direction does not change while scaled. To avoid disproportion as the place low intermediate sign looks like in the right side of the figure, if the expected scale proportion gets beyond a reasonable limit, it may be better to redraw a sign instead of scaling.



Modify Selected

The panel is shown in figure 103. Its functions perform the same clipping and transformation of symbols into passive as discussed at the PATHS an HORIZONTAL SIGNS tool palettes. The difference is that the functions in the Modify Selected panel are in effect only if a sign is selected. However, if the required transformation is not valid for a selected sign, the message appears in the command line: "Not for clipping" or "Not for changing to passive."







Fig. 103. Modify Selected.

Fig. 104. Snap.

Fig. 105. Edit.

Snap

The panel can be seen in figure 104. Snap mode is an important setting when a score is edited; changing its value may be needed frequently. The buttons provide a fast access to change the snap value with the small buttons, pre-set from 0.01 to 4.0. Snap can be changed via the command line or the Snap Setting dialog window of AutoCAD, but both method needs several steps and typing the required snap value.

Edit

The panel servers functions either to speed up edinting further, or to support revising a score. The panel is shown in figure 105. It contains three large and three small buttons. First the functions initiated by clicking the small buttons are dicussed, then the more advanced functions triggered by lare buttons



Copy

Az AutoCAD **Copy** command keeps copying a selected drawing element until the command is terminated with pressing the "Enter" button or the "Space" key. The Copy function inserts the selected symbol only once then terminates automatically.



Identical

The function repeats a symbol already in the drawing indetically. Its advantage is that there is no need to find the sign on a menu. Either select a sign then click on the Ident button, or vica versa, click the Ident button then select a sign.



Symmetrical function

The function repeats a symbol already in the drawing symmetrically. It works as mentioned above, either select a sign then click on the Symm icon, or click the Symm icon then select a sign.



The Mirror function

Movement sequences in dance are frequently mirrored, referred to as having symmetrical repeats in kinetography theory, echoeing the bilateral symmetry of the human body. To speed up editing, a "Mirror" function allows users to insert a symmetrical set of selected symbols.

To mirror the signs in measure 1 of figure 106, first the set is copied into measure 2, using the Copy function of the Edit panel. This copy is programmed to terminate after the selected signs are inserted—see figure 107. Note that the turn in the upbeat is copied as well. After the Mirror function button is pressed, the tool palette changes to the CONTROL TP (figure 108) and the program asks to select signs to mirror. Note in figure 109 that the turn sing in the upbeat is also inlcuded in the selection. The selection is terminated by clicking the Enter button in the CONTROL TP. The program then requires the definition of the axis of mirroring; the command line prompts the message: "Axis of mirroring?" A single point is sufficient as the mirroring is always performed across the y axis of the drawing. Now the mirror point needs to be located on the center line of the staff. When the point is clicked, the program requires an answer to the next question: "Delete old (y/n)?" The answer can be selected from the CONTROL TP again. For this editing the proper answer is "Yes"—the result is shown in figure 110. The Mirror function is not just a simple graphical mirroring, but a logical one: all symbols are replaced by their symmetrical counterpart at the level of symbol identification in the database of AutoCAD's entities.

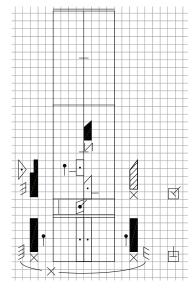


Fig. 106

Fig. 107

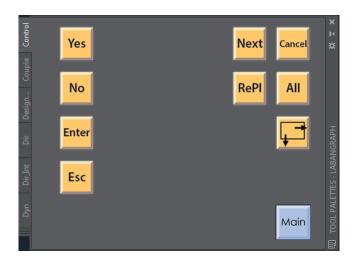
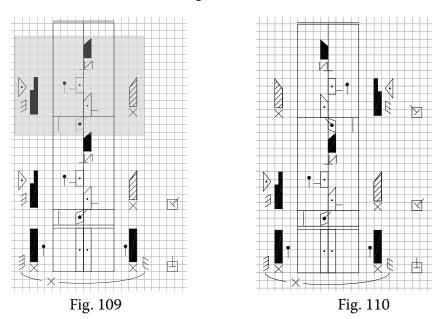


Fig. 108.





Replace

The function searches for single symbols and offers a possibility to replace them with a designated other one. Figure 111 shows a section of 64 measures from a dance in Mezőség called sűrű (a fast man dance), segmented by eight measures which correspond to the periods of the tune accompanying the dance. For demonstration, a left forward low sign will be replaced with a forward low one. When the "Replace" button is pressed, the tool palette changes to the Control TP again and the program prompts the message "Select a sign to replace!" When a sign is selected and the "Enter" button pressed in the Control TP, the selected sign is encircled by a colored (blue) dotted rectangle as shown in figure 112. The next message appears: "Select another

^{*} The section was notated and edited by Gábor Misi.

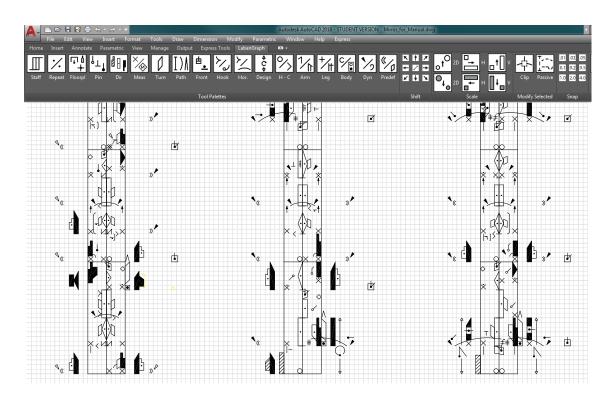
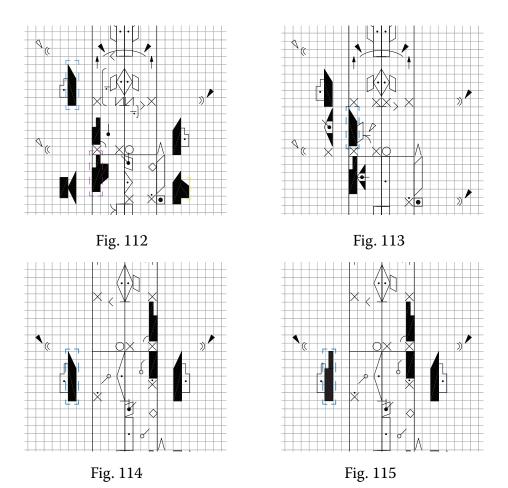


Fig. 111

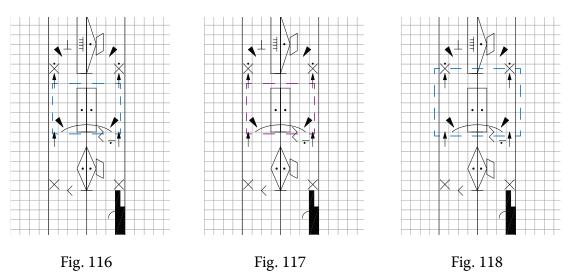


sign to replace with!" The sign to replace with can be selected in any contexts, now it is selected from the previous measure; the selected sign is encircled with a different color (purple). The next prompt asks: "Keep size as in the score?" Not only the vertical size of direction or path signs can be changed in a score, but it may happen that symbols with fix size need measurement adjustments as well. For most of the occasions the proper answer is "Yes," but it can happen that the user wants to restore a predefined size. When the "Yes" (or "No") button is clicked in the Control TP, the last question is: "Replace all? (y/n)." Button "No" is selected now.

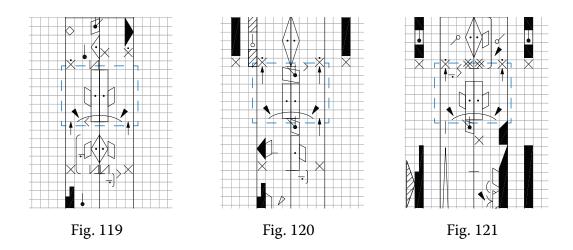
The functions searches for instances of the left forward low direction, encloses the hit by dotted rectangle as in figure 113 and asks the question "Replace?" The answer is "No;" arm directions are intended to be replaced only, not directions of the leg. The next hit is shown in figure 114. The answer is "Yes" now, the direction is replaced—see figure 115). Now the function waits for a command. It can be "Next," which searches for the next instance of a left forward low direction, or "Cancel," which terminates the Replace function.



The function provides a possibility to search a single symbol or a group of symbols. If the "Search" button is pressed in the Edit panel, the Control TP appears again and the function prompts the user to select symbols. In figure 116 five signs are selected, two place middle directions, two dynamic signs and a horizontal bow; they together represent a heel click. When the selection is finished by pressing the "Enter" button in the Control palette or on the keyboard, the selected signs get enclosed by a rectangle, then the user is prompted: "Do you want to modify search rectangle? (y/n)." The function searches the selected signs within the rectangle surrounding the selection, but not beyond. Therefore, if a similar constellation is larger (longer) than the selection, it will not result a hit. Now the selection is shorter than a beat. For the sake of this search let us modify it to include a whole beat, so the question is answered "Yes." The former search rectangle changes color (figure 117) and the user is offered the possibility to draw a larger search area. An enlarged rectangle is set as shown in figure 118. The next question asks for confirmation: "Rectangle OK?" If the answer is "No,"



the rectangle can be modified again, if "Yes," the search is started. Different search results, enclosed by the search rectangle, can be seen in figure 119-121. Each includes the originally selected set of five signs, which may be different in length and applied in different context.



Publishing Scores

The primary goal of developing LabanGraph was to create a tool for professional editing and publishing dance scores. AutoCAD produces high resolution, highly detailed vector graphics, where the actual size of the drawing can be defined independently from line weight (contrary to the pixel graphic such as the jpg or tif formats, where the change of picture size changes the width of lines). Although scores may be published directly from AutoCAD, to accommodate the possibly required text and musical information, publishing is better with software developed for this purpose such as Adobe's InDesign. As InDesing does not accept the AutoCAD dwg file format, a good pracice can be to import the dwg file first into Adobe's Illustrator, set the appropriate size and line weight prior to sending the graphics to the publishing software. The drawing can be exported from Illustrator in different vector or raster file formats, but the best result can be achieved always by its own vector graphics.

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