



Daily Intellectual Training

for all brass players

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Daily Intellectual Training

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Daily Intellectual Training

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My name is Igor Maroševič. I have played the trumpet for over 35 years, for the last 22 years in the Slovenian Philharmonic. I have also been engaged in pedagogical work for over 30 years. I would like to present my invention,

which is the result of many years' planning. I am certain it represents a milestone in the pedagogical and professional understanding of playing brass instruments.



Igor Maroševič – the author of the D.I.T.



The Creation of the D.I.T.

When I started working on my invention I felt like I was lost in the universe, since I am a layman in the field of acoustics. When I look back

at the prototype of the invention I cannot help laughing at its appearance - I would almost have needed a weapon license for it. But – it worked!



In order for the D.I.T. to function perfectly some calculations were required and I could not do them myself. Therefore I owe a special thanks to my two sons: David, who is a mathematics student, and Timotej, who is a physics student. I would also like to thank my daughter Ilona, who, being full of infant vivacity, gave us

the energy we desperately needed. I could say she was the “spiritus agens” in the process of inventing. In short, my children have always believed in their father's dreams. To express my appreciation I named my invention after my children:

David

Ilona

Timotej

Daily

Intellectual

Training

The Device for Daily Intellectual Training of Playing Brass Instruments – Trumpet, Horn, Trombone, Tuba, Baritone, Tenor and Their Variations!

I created the device (henceforth referred to as the D.I.T.) because of the urgent need to practise playing brass instruments with the mouthpiece. Playing on the mouthpiece is an important part of the daily practice of brass instruments, because good (proper) and bad (improper) ways of playing are reflected on the

mouthpiece. Practising daily exercises on the mouthpiece can cause brass players some trouble. When describing the D.I.T. I will only use the term “trumpet” or “instrument” in order to avoid itemising all the brass instruments. This does not mean that the D.I.T. does not apply to all brass instruments.



The D.I.T. on the mouthpiece for tuba, trombone, trumpet and horn.

- Description of Practice on the Mouthpiece

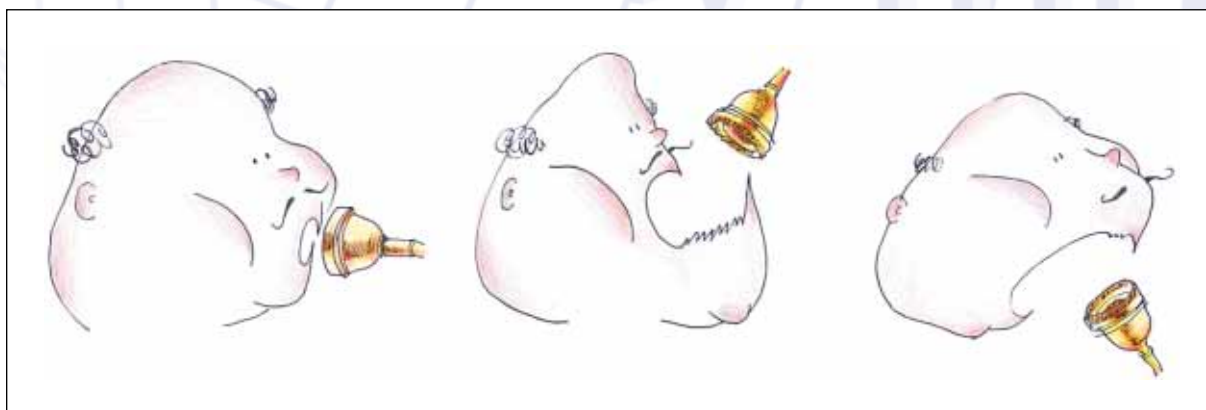


Mr Josl by practicing with the mouthpiece.

When we practise with the mouthpiece it either has to be held in the hand or another device called the B.E.R.P. (The Buzz Extension and Resistance Piece) has to be used. Until now, the B.E.R.P. has been used as an expedient for practice on the mouthpiece. In both cases we face many problems which may become very disturbing in daily practice. While playing basic and more difficult exercises on the mouthpiece some doubts arise, which prevent us from determining whether we are practising correctly or incorrectly. If we hold the mouthpiece in the hand, we lose the sense of the appropriate pressure of the mouthpiece on the lips, and of the proper angle of incidence between the mouthpiece and the lips. The sensation of

holding the mouthpiece in the hand differs greatly from the sensation of playing on a mouthpiece that has been placed into an instrument (trumpet). When we add the trumpet to the mouthpiece, the pressure of the mouthpiece on the lips changes. By adding the instrument, the sense of the appropriate degree of pressure of the mouthpiece on the lips is lost. We experience two different kinds of pressure, and this presents a dilemma: which pressure is the right one, i.e., appropriate but at the same time minimal. Another problem arises when we hold the mouthpiece in the hand: since the mouthpiece is short (small), it is very hard to determine whether the angle of incidence, or the inclination of the mouthpiece to the lips, is correct, because if we add a trumpet the inclination will most likely change. The angle of incidence changes because of the changed position of the hand which holds the mouthpiece or trumpet. The closer we hold our hand to the lips, the less visible the deviations are. The more distant the hand is from the lips, the more visible the deviations are (the lever principle). The angle of incidence, or the inclination, of the mouthpiece is one of the essential points that needs to be taken into consideration in relation to the physical constitution and body predisposition of the individual brass player. By that I mean the shape and structure of the teeth vertically and horizontally, the jaw formation, the complete facial muscles and the lip formation.

All of the exercises that we play on the mouthpiece need to be repeated on the trumpet. If we do this simultaneously we constantly need to transfer the



Josl with different types of jaw formation.

mouthpiece into and out of the trumpet. In so doing we lose time, intonation and sensation; and we also destroy the lower end of the mouthpiece. Playing on the mouthpiece offers very little resistance and, furthermore, it is more difficult because we have nothing to “cling to” (the sound of the instrument, intonation, resistance). By adding the instrument the resistance increases slightly, but at the same time certain finesses are eliminated; finesses which are much more audible when playing exercises on the mouthpiece than when playing on the instrument itself. Playing on the mouthpiece is problematic for all brass players. This is illustrated by the fact that pedagogues and scholars all over the world deal with this problem in many different ways. These

problems were partly mitigated over 15 years ago by the first trumpeter of the Los Angeles Orchestra. He invented an expedient for playing on the mouthpiece called the B.E.R.P. (already mentioned in the above description of practice on the mouthpiece). The B.E.R.P. is an expedient which is placed between the mouthpiece and the trumpet so as to prevent the airstream entering the trumpet from the mouthpiece. Instead, the air leaks through the small holes in the B.E.R.P.. The unpleasant sensation of holding the mouthpiece in the hand is partly alleviated by this invention. The B.E.R.P. also increases resistance so that it resembles the resistance encountered when playing the trumpet, although it is not exactly the same.

- Description of Practice on the B.E.R.P.



Mr Josl with the B.E.R.P.

Many problems arise when practising on the mouthpiece with the aid of the B.E.R.P. The B.E.R.P. slightly improves the sensation of the pressure of the mouthpiece on the lips, approximating the pressure that arises when practising on the trumpet. However, the pressure is greater because of the increased resistance created by the B.E.R.P. The following problems also remain: for every exercise played on the mouthpiece with the B.E.R.P. we first have to remove the B.E.R.P. from the trumpet and then remove the mouthpiece from the B.E.R.P.. Only then can we place the mouthpiece into the trumpet and repeat the

exercise on the instrument. The transfer of the mouthpiece is unpleasant and takes a lot of time. As well as interrupting the practice, it causes a loss of intonation and a loss of the sensation of playing the same phrase on the mouthpiece and the instrument. The lower end of the mouthpiece is even more exposed because there is a double transfer. There is also an unpleasant sensation of the angle of incidence, because the hands that hold the instrument with the B.E.R.P. are further from the lips than they are when playing without the B.E.R.P.. The additional distance of 3.5 cm to 4 cm is so disturbing that

trumpeters may even hit themselves on the lips and teeth while practising because they are used to a shorter distance between their hands and their lips. Furthermore, this distance is too great for beginners, especially for children. The seriousness of this problem is substantiated by the fact that the inventor adjusted the B.E.R.P. so that it is fixed to the entrance pipe with a ligature, in order to have the opening of the mouthpiece inserted into the B.E.R.P. in the same position-distance as the opening of the mouthpiece inserted directly into the instrument. With this adjust-

ment he eliminated the disturbing distance, but the unpleasant sensation of the angle of incidence became even stronger because, regardless of the distance, the entrance opening of the mouthpiece is not in its usual initial position but is approximately 2 cm to the right. The transfer of the mouthpiece from the B.E.R.P. to the instrument and back is still necessary.

My expedient for Daily Intellectual Training (D.I.T.) solves all the problems mentioned so far, problems that are well-known to all brass players-trumpeters.

- Description of Practice on the Mouthpiece with the D.I.T.



The D.I.T. is an expedient for practising on the mouthpiece. Thirty years of pedagogical experience has necessitated innovations in the teaching process, including technical innovations. For about twenty years of my pedagogical career I have been occupied by the question of how to play on a mouthpiece already positioned in the trumpet in such a way that it would sound as if one were playing on the mouthpiece alone. I have solved the problem with the D.I.T., because it enables us to disregard the physical characteristics of the instrument. This means we can play a glissando without the intermediate aliquot tones, which is impossible without using the D.I.T.. The moment air passes through the mouthpiece into the trumpet, aliquot tones, which are physically precisely defined, start to sound. To make it easier to understand, let me say that the D.I.T. is, in fact, a valve which is used to redirect the air and to reduce the air pressure inside the instrument. The D.I.T. enables the air to flow out of an opening on the mouthpiece, while at the same time allowing a small quantity of air to leak through the trumpet. This quantity of air is so small that it cannot activate the physical characteristics of the instrument, but it enables optimal daily practice on the mouthpiece or the instrument.

The D.I.T. has two functions:



Presentation of the D.I.T. in its closed and open position.

1. Functioning of a mouthpiece: We achieve the functioning of a mouthpiece which is placed into a trumpet by setting the D.I.T. to the open position. In this position the air leaks through the opening on the mouthpiece on which the D.I.T. has been fixed. In the open position only the function of the mouthpiece is achieved, as if we were holding the mouthpiece in the hand or practising with the assistance of the B.E.R.P. – but without any disturbing elements, of course. Aliquot tones do not sound - they are not defined because the mouthpiece itself has no intonation. We define the intonation and the pitch of the tone ourselves by playing.

2. Functioning of an instrument: We achieve functioning of an instrument by setting the D.I.T. to the closed position. In this position all of the air blown into the mouthpiece enters the trumpet. The normal state is re-established because the D.I.T., when placed in its closed position, does not affect normal playing. The physical and technical characteristics of the instrument are once again activated. Aliquot tones sound, and the instrument sounds as required. At that moment all, and I mean all, the problems mentioned initially in the chapter about practising on the mouthpiece, or practising on the mouthpiece with the assistance of the B.E.R.P., are solved.

Comparison Between Playing on the Mouthpiece, Playing on the Mouthpiece with the B.E.R.P. and Playing with the D.I.T.

- Holding the mouthpiece in the hand while playing is disturbing. It should be mentioned here that different pedagogues require their students to hold the mouthpiece in different ways, thus causing different problems. Older students (in terms of both the length of their musical studies and their age) can cope with these pedagogical demands, while children often have difficulties accepting practice on the mouthpiece. The D.I.T. solves the problem of holding the mouthpiece, since the mouthpiece is placed in the trumpet, and when the D.I.T. is in the open position we still play the trumpet, only that it sounds like playing on the mouthpiece.
- The pressure of the mouthpiece on the lips is different if we play the same exercises on the mouthpiece, on the mouthpiece with the B.E.R.P. or on the instrument. With the D.I.T., the sensation of the pressure is exactly the same all the time, whether it is in the open or closed position.
- A mouthpiece with the B.E.R.P. offers much more resistance in the upper register than when playing normally on an instrument. With the D.I.T., the resistance when playing in the whole range is the same as the resistance when playing an instrument.
- The problem of the inclination of the mouthpiece is solved when playing with the D.I.T. because there is no intermediate B.E.R.P. causing an unpleasant sensation – the sensation of a lever. There is no lever when playing with the D.I.T. because the distance between the lips and the hands is unchanged.
- Because of the additional 3.5 cm (the length of the B.E.R.P.), the distance between the lips and the hands becomes too great and, consequently, the position of the instrument is disturbing. The D.I.T. solves this problem, because the mouthpiece is placed into the instrument without any additional expedients. The D.I.T. also solves the problem of the position of the opening for the mouthpiece on the instrument, which is situated to the side on the new B.E.R.P..
- When using the B.E.R.P., we lose the intonation and the complete sensation for the finesses because playing is interrupted too frequently. This interruption is a consequence of the constant transfer of the mouthpiece, which is necessary for the sake of checking intonation. With the D.I.T., this unpleasantness disappears, because we can control the intonation in any moment by simply changing of the position of the D.I.T. (open/closed). The sensation when playing with the D.I.T. is constantly the same as that of playing the trumpet.
- The transfer of the mouthpiece to the B.E.R.P., then out of the B.E.R.P. and back into the trumpet takes a lot of time, and is disturbing because it interrupts the continuity of the practice. With this constant transference the lower end of the mouthpiece is gradually destroyed, as is the opening on the trumpet. With the D.I.T., this problem is eliminated because the mouthpiece is constantly in the trumpet and it does not need to be transferred. When we start playing, we put the mouthpiece with the D.I.T. into the trumpet, and we do not take it out until we have finished playing.
- One very disturbing element of playing on the mouthpiece with the B.E.R.P. is the inability to immediately repeat an exercise on the instrument without removing the mouthpiece. Exercises played with the D.I.T. can be immediately repeated with the instrument without removing the mouthpiece.

More than 30 years of playing and teaching the trumpet has given me a wealth of experience which proved very useful when creating my invention. The D.I.T. is intended for all brass players: amateurs, scholars, students, teachers or professional musicians. It is an ideal expedient for teaching and for the perfect control of proper playing. The D.I.T. is not intended

for the control of the mouthpiece or the instrument, but solely for the control of one's own playing.

Daily Intellectual Training includes all the elements of brass playing, which are very important when practising with the D.I.T.

These elements are:



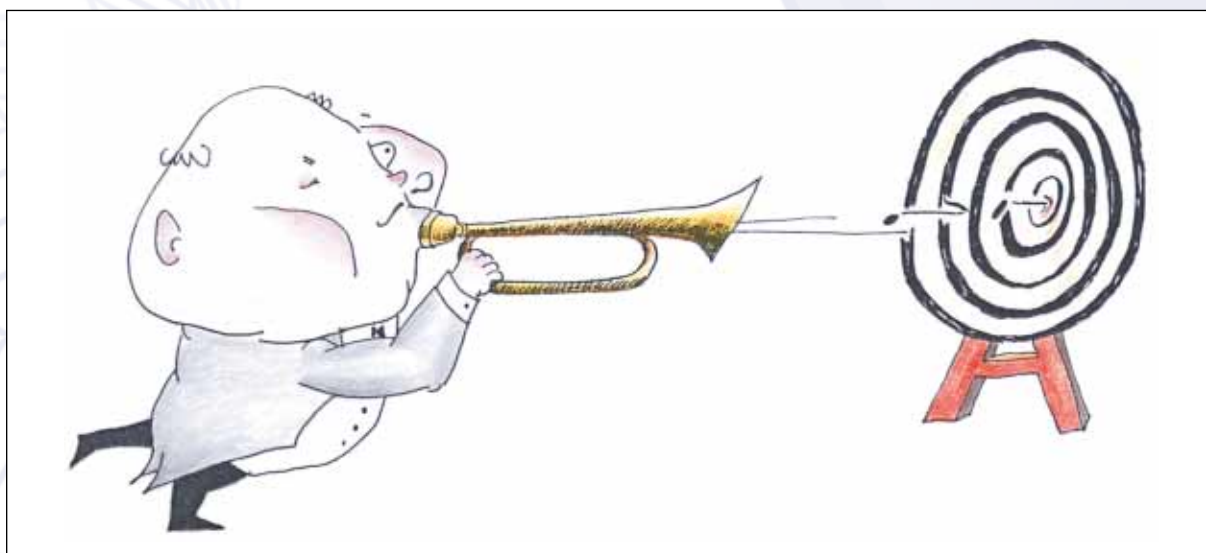
1. Centering – focusing the tone
2. Intonation
3. Inclination
4. Tongue position
5. Glissando
6. Airstream
7. Pressure
8. Resistance
9. Pivot – focal point
10. Banding
11. Changing mouthpieces
12. Changing instruments
13. Pedal tones
14. Posture of the instrument
15. Sensation

All of the itemised segments of Daily Intellectual Training are strongly connected to one another. The description of these elements will be presented by Mr Josl.

1. Centering or Focusing the Tone

Centering or focusing the tone means playing precisely into the centre of a certain tone. This can be achieved by the appropriate vibration. For example, if we wish to play a sonorous A with the frequency of 440 Hz, we need the lips, with the assistance of the mouthpiece, to vibrate at the rate of 440 times per second. Throughout the entire history of brass playing we have not been able to directly control these vibrations without removing the mouthpiece for each individual tone. The D.I.T. has made it possible. The electronic tuner does not indicate the frequency of the vibration of the lips

and the frequency of the sound of the mouthpiece when it is placed in the trumpet, but rather the frequency of the tone that we hear on the instrument. Many professional musicians – brass players who have tested the D.I.T. – have been unpleasantly surprised because the measurements indicated that the entering frequencies did not match the exit frequencies. The measurements indicated that some individuals centered the tone up to 80 Hz too high or, in rare cases, too low. How is this possible?



Let us consider, for example, a trumpeter who is playing a sonorous D2 on the C trumpet. The required frequency for this tone is 587.33 Hz (assuming A is 440 Hz). If we do not press the first valve, which is needed for the tone D2, there are two possibilities. One of two possible aliquot tones, C2 or E2, can sound, depending on the support of the airstream. If the support is not adequate C2 will sound, and if the support is stronger than required E2 will sound. But in both cases the tone will be “sick”, which

means that it is not focused correctly. The only tone that will not be “sick” is the tone D2. Because of the direct control of lip vibration we can say that D. I. T. is a kind of a tuner for lip vibration. The tone that comes from the instrument sounds the most beautiful and has the clearest intonation when the input frequency is equal to the output frequency. Using the D.I.T., the input frequency is heard as the sound of the mouthpiece, while the output frequency is heard as a tone on the instrument.

2. Intonation



Intonation is closely connected to the centering, or focusing, of the tone. If the tone is correctly focused it will sound intonationally pure and correct, provided that the instrument is optimally tuned. For example, if the piano is tuned to A equals 443 Hz and your instrument is tuned to A equals 400 Hz and you use the D.I.T., you have the unique possibility of tuning the instrument regardless of the fatigued or relaxed placement of the mouthpiece to the lips. Simply play a sonorous A (A equals 443 Hz) with the D.I.T. in the open position, so that you can hear an intonationally pure sound from the mouthpiece (if it sounds pure it must be equivalent to the sound of the piano), then switch the D.I.T. to the closed position and adjust the slide to the sound of the mouthpiece. In this way, regardless of the circumstances, your instrument will be correctly tuned. You will probably agree with the assertion that every brass player at some time or another asks himself what he is doing wrong to cause the sound to be too high or too low even when the instrument is tuned. The cause

can be swollen lips or placement of the mouthpiece to the lips that is too fatigued or too relaxed; it can also be caused by inflammation or one's general state of health. All of these factors will be reflected in the intonation and the tone. Despite all the possible problems, you can be one hundred percent sure that at any given moment, regardless of the unfavourable circumstances, you will focus the tone correctly if the intonation with the D.I.T. is correct. At every moment the D.I.T. enables immediate and complete control of intonation when playing your instrument. With daily practice with the D.I.T., intonation will be perfect at all the dynamic levels, provided the instrument is optimally tuned. If you practise playing on the D.I.T. at pianissimo dynamics, when switching to the instrument the correct vibration with the D.I.T. will enable intonationally pure playing. The pitch will not rise in the upper register - a very common problem when playing pianissimo. Playing will be intonationally pure.

3. Inclination

The inclination of the mouthpiece, or the angle of incidence of the mouthpiece to the lips, is a component of brass playing that is extremely important for the successful development of a brass player.

The inclination is closely connected to the tongue position and, above all, to the physical constitution of the player. While testing the D.I.T., I found that the tone in the mouthpiece extinguishes, or sounds forced, if the inclination is not appropriate for the range in which we are playing. Since it is possible to play a glissando on the D.I.T., it is possible to

determine whether the inclination is correct by ascertaining the position in which the brass player can play a glissando throughout his range. If the glissando is torn it means there is something wrong with the inclination, and I recommend practising with the D.I.T. in the range where the glissando is torn. In order to abolish this critical point, one should practise a glissando as if imitating the sound of an ambulance. If a brass player has no other problems and he manages to play a glissando throughout his range it means his inclination is completely correct.



4. Tongue Position

The tongue position in the oral cavity is, naturally, closely connected to the inclination. I will not polemicise about tongue placement, since this is an issue that has already been covered in many text-books. If you can play a glissando throughout the range, your tongue must be functioning correctly and, given the successful glissando, the inclination must also be correct. Despite a successful glissando and the correct position of the tongue, a poor attack can still occur. For a good attack, the tongue position (height) for any given tone has to be the same for both legato and staccato. I am sure that with the D.I.T. you can immediately determine when the position of the tongue is incorrect.

If the tongue position is incorrect when playing a glissando, the glissando will be torn. If the tongue position is incorrect when playing an attack, you will not be able to execute it successfully with the D.I.T.. Brass players often make the

mistake of thinking an incorrect attack is successful because the instrument conceals the deficiencies of the attack and the tone sounds even though the attack is not completely correct. Using the D.I.T., with an incorrect attack the tone cannot sound.

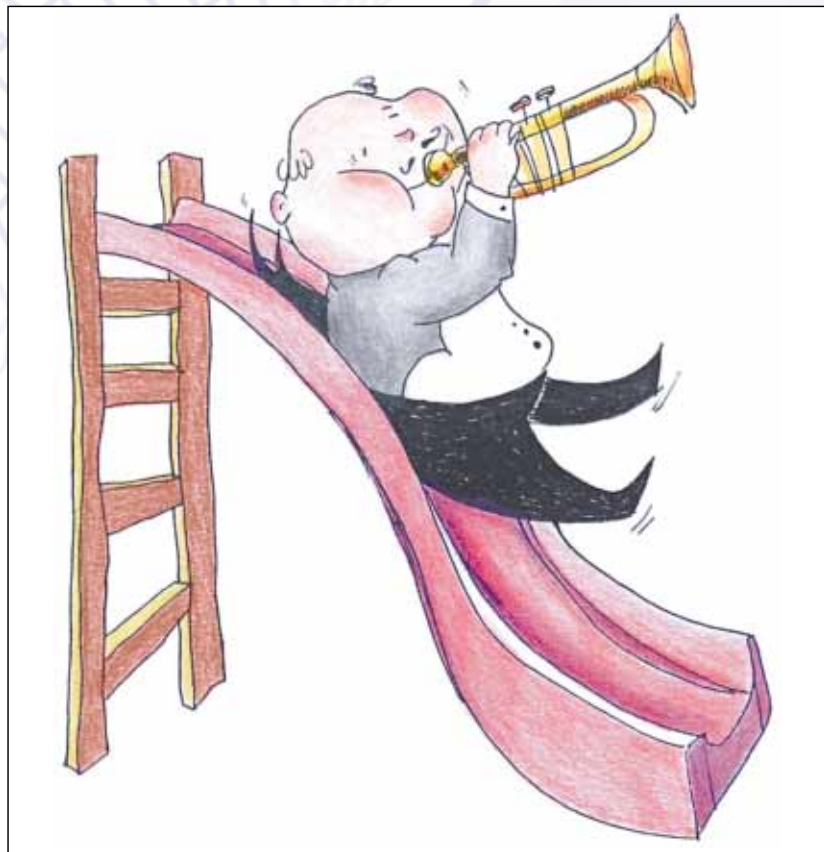


5. Glissando

Playing glissandi is, in my opinion, the most important part of daily practice for every brass player. Working as a pedagogue, I found that in their first contact with the mouthpiece children like to imitate the siren of a fire engine, ambulance or police car. This is even easier with the D.I.T. because it enables the child to practise the correct posture of the instrument and normal playing conditions from the very beginning, even though only the mouthpiece makes a sound. If we switch the D.I.T. to the closed position during the playing of the little glissando-siren, the nearest aliquot tone sounds. In this way a child can learn his first basic tone, and it can be even improved by using the D.I.T.. The glissando is, therefore, a perfect practice to reach the desired goal for all brass players. For professional musicians, playing glissando throughout their range is an

indicator that all the factors are working optimally. As you probably know, the glissando contains the entire frequency range, from the lowest to the highest tone. If a trumpeter plays a glissando from pedal C (65 Hz) to G3 (1568 Hz), we hear all of the tones from 65 Hz to 1568 Hz. The musicians who tested the D.I.T. found that for the first time in their lives they could play the whole tone spectrum on the mouthpiece while experiencing the same conditions as playing on the instrument. By that I mean the posture of the instrument, the position of the hands, the resistance while playing, the pressure on the lips, the inclination, pivot, the focus of the tone, the airstream etc. While playing a glissando slowly with the D.I.T., the consumption of air is optimal, because there is no need to waste extra energy in order to reach the goal. Because they are afraid of

playing in the upper register, many brass players overdo the tension in every respect (excessive pivot, excessive height in the tongue position, excessive pressure, etc.). In so doing they waste their precious energy. These irregularities in tension are manifested as a skip from the lower to the upper register while playing a glissando with the D.I.T.. This means that the glissando is torn. In order to prevent the glissando from tearing, it is necessary to synchronise all of the elements. The same synchronisation is required when playing a glissando from the upper to the lower register.



It is obvious, that the playing of glissando gives great pleasure to Mr Josl.

6. The Air Column

The air column and the constantly correct dosage of air are required for the support of correct playing. I will not go into details about diaphragmatic inhalation, since there has already been a lot written on the subject (although regrettably little of use). To play a glissando successfully you need the correct dosage of air. You cannot play a glissando on the D.I.T. without proper support of the airstream, even with the correct inclination and tongue position. So the D.I.T. constantly reminds you that suitable air support is needed for good playing.



7. Pressure

It is impossible to play without pressure. Pressure is closely connected to the dynamics and the register in which we play, as well as to the resistance of the instrument. The pressure of the mouthpiece on the lips reduces with increased proficiency of playing. The D.I.T. enables equalised pressure in the open or closed position, regardless of the register or dynamics in which we play.



8. Resistance

The resistance when playing with the D.I.T. is almost exactly the same as that when playing the instrument. But why almost? While resistance changes with the everyday changing of instruments (Bb, C, D, picc. trumpet), the difference in the resistance when playing with the D.I.T. is negligible. In this respect, the D.I.T. is not comparable to the B.E.R.P., which offers much greater resistance than playing an instrument or playing on the D.I.T. All brass players know it is much more difficult to play any brass instrument in the upper register than in the lower. After testing the D.I.T., many of the test brass

players (trumpeters, trombone players, horn players, tuba players) asked me whether I could also play with more ease in the upper register when playing on the D.I.T.. The answer is yes, because the D.I.T. enables the correct focusing of the tone. In the chapter "Focusing or Centering the Tone" I wrote that many brass players center the tone too high. In so doing they literally waste their energy.

There is no wasting extra energy when using the D.I.T. because the tone is correctly focused. This is precisely why players have the feeling that playing in the upper register is easier - and it truly is easier.



9. Pivot – the Focal Point



In my opinion, pivot is often misunderstood. There are as many good theories of pivot as there are good pedagogues; but unfortunately there are just as many bad theories as there are bad pedagogues. I think pivot is the consequence of natural characteristics, connected to the physical constitution of the individual brass player. Pivot is, therefore, directly connected to the angle of incidence of the mouthpiece to the

lips, and to the centering of the tone. Pivot is the automatic changing of the angle of incidence of the mouthpiece while playing, if the tone is correctly focused. Pivot is present also when playing with the D.I.T., but almost imperceptibly. By daily practice of the instrument with the assistance of the D.I.T. I found that pivot is reduced to a minimum which, in my opinion, is our goal.

10. Banding



Banding is a good exercise for a good brass player, but it is damaging for a bad brass player. It should be mentioned that many pedagogues recommend banding to the brass players who have certain problems, but with banding these problems increase because they lose the sensation of centering the tone if the foundations of playing are not well set. With the D.I.T., the practice of banding is simply not needed, because each tone played is precisely defined and focused with regard to the player's own wish, above or below the centre of the given tone. This means that playing with the D.I.T. enables banding by switching from the open to the closed position without any special additional practice. I could say that playing banding on the instrument is not necessary because the D.I.T. demands total control over the tongue position and the air column.

11. Changing Mouthpieces

I have never been in favour of changing mouthpieces because I have never had any particular problems in either the upper or lower register. Despite the fact that many brass

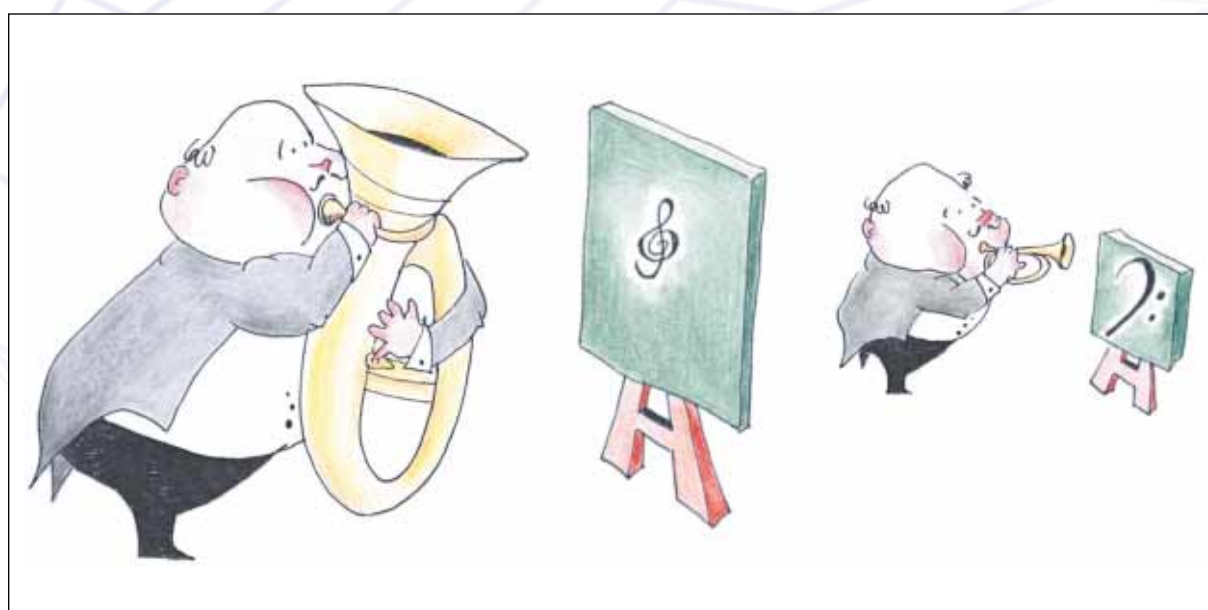


players do not have problems, they like to change their mouthpieces in order to reach the desired goal.

When changing mouthpieces, many of these brass players feel that the mouthpiece is suddenly blocked. A blockage in the upper register often occurs when changing mouthpieces if we try to reach the desired goal too fast. The blockage can appear because of many different factors, e.g., excessive pivot, excessive pressure, the tongue being raised too quickly, incorrect inclination in the base etc. While testing the D.I.T., I found that it was much easier to change mouthpieces because the D.I.T. enables immediate correct focusing of the tone. With the help of the glissando I can establish the proper tension and synchronise all the factors required for playing the instrument.

12. Changing Instruments

Since I am a trumpeter I will give the example of the changing to different trumpets. We all know that the sensation of playing is different for each instrument and needs some adjustment. With the D.I.T., changing instruments becomes a pleasure, because on each instrument we can play the same exercises that we play on our basic instrument. For some people their basic instrument is the Bb trumpet, for others it is the C trumpet. While testing the D.I.T. I carried out a 14 day experiment with the daily warm-up practices on the piccolo trumpet, because with the D.I.T. it is possible to play the same exercises on the piccolo trumpet in the whole range of the basic instrument. During the experiment, I found that the sensation after the warm-up was perfect, and after having played for only 10 minutes with the D.I.T. I felt I was ready for the challenges required by the piccolo trumpet.



In jest, I can say that on the D.I.T. tuba players can play piccolo trumpet parts, and piccolo trumpet players can play tuba parts!

13. Pedal Tones

Pedal tones are useful, when they are played correctly. The greatest dilemma when playing pedal tones is the fingering. Some pedagogues suggest the use of all three valves, but many others insist upon playing pedal tones without the valves. The fingering is not important for playing the pedal tones with the D.I.T.. I found that, in comparison with the D.I.T., playing pedal tones on an instrument is more difficult if I play without the valves, but that seems wrong because I sense the change in the musculature

and in the dosage of air. This is literally wasting energy needlessly. After using the D.I.T., I am convinced that the correct fingering for playing pedal tones is that which equates with the sensation of playing pedal tones with the D.I.T.. In view of the fact that many pedagogues suggest playing pedal tones without the valves, I wonder why none of them have suggested playing the tones in the upper register without the valves. Here the physics work - the tube length and the wavelength of the tone.

14. Posture of the instrument

Until now, either the mouthpiece had to be held in the hand or the B.E.R.P. had to be used. The lead trombone player of the Slovenian Philharmonic, Domen Jeraša, told me after testing the D.I.T.: "Playing with the D.I.T. is like driving a Mercedes, while in all the other cases playing on a mouthpiece is like driving a car in the rain without the windscreen wipers turned on - we need to stop, step out of the car, wipe the windscreen by ourselves, and then continue driving." The posture of the instrument when practising with the D.I.T. is exactly the same for all brass instruments, regardless of whether it is in the open or closed position.



15. Sensation

Having itemised all of the findings, it gives me great pleasure to report that the sensation when playing an instrument with the D.I.T. is DREAMY! In all the aspects of Daily Intellectual Training, the sensation by playing on the D.I.T. is exactly the same as playing on an instrument.



Reasons for Developing the D.I.T.

There were two essential reasons for developing the D.I.T.. The first reveals itself in the desire for a contemporary method of teaching brass instruments, with contemporary teaching expedients. I have educated many good and average trumpeters, but also many bad ones. There are various reasons for that, but I realise that there would have been much fewer bad ones if I had had an expedient that would have helped me discover the mistakes and imperfections that the pupils had been making in their daily practice with the instrument. **The idea of my teaching is: everything that sounds on the mouthpiece can also sound on the instrument.** I must confess that some pedagogues mocked me when I was developing my patent, but that just gave me additional energy to finish it.

There is a hidden trap in the D.I.T., and many pedagogues and musicians who have tested it have fallen into it. Why? There are very few musicians who would admit to themselves that the D.I.T. revealed the imperfections in their own pedagogical and professional approach to the instrument. The most difficult thing to do is to admit your own imperfections to yourself.

A world-famous trumpeter fell in this trap as well. It is of no importance who he was, but it is interesting that he did not know how to respond. I had sent him a mouthpiece with the D.I.T. and I had asked him for his opinion of it. I quote: "Dear Mr....., I would like to ask you to send me your opinion of my patent, which..... It is designed for professional musicians, teachers, I believe that, as a top-level musician, you do not need it, but I am convinced, however, that you could use it in your work as a pedagogue. With your permission, I would like to publish your opinion of the D.I.T. in Brass Bulletin..... Yours sincerely,"

To this day I have not received the opinion I was so eagerly waiting for. I have no doubts about the quality of the maestro's playing, but I have doubts about the quality of his pedagogical work, because

obviously he did not realise just how good this expedient would be in the teaching process. Here is the trap! To give an opinion of something means to take a clear position on your opinion. It is only possible to give an opinion with a well considered approach, and it is very hard to form an opinion with just superficial comprehension. An opinion of the D.I.T. could be either positive or negative, but in either case it would be necessary to know how to defend it. I feel satisfied with the fact that I have never received any criticism of the D.I.T., for it is in human nature to depreciate something that seems bad to us. And even if this dark side of human nature had not predominated in the maestro's decision, it is even less understandable why a world-famous pedagogue would not have responded in some way to this novelty, even if just to say thank you for the present - the mouthpiece with the D.I.T.. However, another world-famous pedagogue, James Thompson, did respond. On his first contact with the D.I.T. he brilliantly played a glissando over four octaves. He told me: "It is excellent, I like it very much, I can't believe it, I like it". There have been quite a number of such encounters with top-level musicians. The essence of all these encounters is that all the brass players who were capable of giving an assessment of the D.I.T. gave only positive opinions.

The second reason for developing the D.I.T. was my lip injury. I developed a thickening of the tissue in my lip, which prevented me from playing normally. What follows is my true story...

In the Slovenian Philharmonic, where I work as a trumpeter, my position rapidly started to get worse approximately 6 years ago. I had a festering inflammation on my upper lip, which was the result of unhealed herpes. I did not want to cause any trouble at my workplace so, in spite of the severe inflammation, I went ahead and played at two subscription concerts. After the first subscription concert, the lip was so swollen that I decided not to practise or play before the repetition of the concert the next day. I finished the second concert

with the biggest difficulty in my life. Bartok's suite from the ballet *The Miraculous Mandarin* will stay with me forever. After the concert, the pain in my lip was so great, and I was so afraid, that I suspected it would not end well. After coming home, I wanted to take care of the wound because it looked festered and swollen. There was festering tissue under the epidermis, which thickened in a few days. Ten days later, the lip looked healthy but the thickened tissue remained. It was approximately 3 millimetres long, and one millimetre wide. This thickened tissue was, and still is, a foreign body in my lip. From that moment on, the suffering began. When I wanted to start practising again, the sensation was unusual, as is normal when I start playing after a short break. But this time there was no tone. After a few attempts the tone started to sound again, but it sounded more like crackling than playing. After playing only a few tones my lip swelled. On the advice of a dermatologist, I decided to stop playing until the red colour, which indicated there was a chronic inflammation, disappeared.

I had a complete break of three months before I started to practise again. After a few lip vibrations I took the mouthpiece out and wanted to lure any sound at all out of it, as long as it was beautiful and clear. The sound came out, but it had a sort of accompanying sound, which is called the "cricket" by trumpeters. This ugly accompanying sound was with me day after day and I could not get rid of it. The more quietly I played, the more it was audible; the louder I played, the less it was audible. But playing loudly was not the solution - instead of the cricket the tone became aggressive. The sensation while playing was very unpleasant. I was distracted by the thickened tissue in my lip, which was still swollen despite the long break from playing. Besides all this trouble there was another problem: that of endurance. After around 30 minutes of practising I did not know where to place the mouthpiece again. The lip was irritated, and any further playing seemed senseless.

The anchor point of the inner edge of the mouth-

piece was exactly in the centre of the thickened tissue. When the thickened tissue came into the mouthpiece, it swelled even more because of the vibrations, and simply prevented me from blowing air into the trumpet. If the thickened tissue came outside the mouthpiece it was pinched and therefore even more swollen. The swelling spread to the part of the lips which forms the oral cavity, which is most important for good playing. But I could not control these things. In both cases described above I avoided the thickened tissue because it prevented basic tone production. Try to imagine what the playing was like, since I had to play despite everything. I had to play because this was my job, my source of income. I could not play long tones - any long tone was broken; I could not play pianissimo dynamics because the "cricket" would appear; when playing legato the trumpet was blocked, and my staccato was aggressive; forte and fortissimo dynamics swallowed up what little physical condition I gained by plodding. In short - it was a disaster in every respect! The insecurity and difficulty of the position I was in increased every day. I gradually made a decision to stop playing the trumpet in the Slovenian Philharmonic and to devote myself entirely to teaching. I am not ashamed to admit that whenever I thought about a cessation of playing the trumpet tears came to my eyes. I needed help, any sort of help, that would show me the way out of the distress I found myself in. I expected some advice, an idea for a solution, a serious discussion with someone and an approach these real problems, but all in vain. All of the discussions I had always ended with easy and superficial advice such as: change your mouthpiece, practise more, practise less, practise more quietly, practise more loudly, it is all in your head, ... in short, nothing serious or useful. Let me mention here one thought which I think is very important and I will mention once again in the summary. This thought, which I take as a fact, is: everything that sounds on the mouthpiece, sounds on the brass instrument as well; everything that sounds on the brass instrument,

does not necessarily sound on the mouthpiece! Thus I assert that the playing which sounds on the brass instrument and does not sound on the mouthpiece must be incorrect and sick. It is a complete waste of time and, at the same time, it reinforces a false way of playing, dependent on various problems that we mostly cannot discover or solve by ourselves. Therefore, I can state: the more we practise, the worse we get and the more difficult it is for us to discover the mistakes which prevent us from playing correctly.

Some of the biggest problems that brass players face are strongly connected to the embouchure. These problems are the most difficult to discover and to heal. Brass players with these problems are perpetually sick, because the place where the mouthpiece touches their lips always remains strange to them, due to the unpleasant sensation. Every time the mouthpiece is removed from the lips they feel strange, because they are again and again insecure about the future placement of the mouthpiece in order to be able to continue playing correctly. This insecurity can be very painful, and it can start to cause psychological problems. There is a loss of feeling for the location of the anchor point of the contact between the mouthpiece and the lips. I think it is fear to say that brass players can play exceptionally attractively with all the problems already described if they can just place the mouthpiece to the lips correctly. If the placement does not succeed, the playing can be literally indigestible. This means we need constant control for attractive and correct playing. This control enables us to check whether they are doing everything right or wrong. It is no secret that I myself am one of those brass players who urgently needs immediate control over their own playing - without removing the mouthpiece from the lips. It is the D.I.T. that makes this perfect control possible. With the D.I.T., I can check in any moment whether the playing on the instrument is identical to the playing on the mouthpiece.

Checking is possible without removing the mouthpiece, in all registers, at all dynamic levels, at

every moment, with the same sensation, with equal pressure, with equal resistance, under exactly the same conditions, with perfect control of the intonation, with perfect control of the centering of the tones, with equal air support, with the possibility of further playing, either on the mouthpiece or on the instrument.

If I start to doubt the correctness of my playing I can check myself with the D.I.T., which immediately warns me if the thickening of tissue in my lip is in the wrong place. As such, the D.I.T. enables me to have total control over the situation. I am able to continue playing the trumpet in the Slovenian Philharmonic only because of my own invention.

This true story is just a short description of the suffering I had to bear in my workplace because I was not capable of playing. I have to admit that my trumpeter colleagues stood by me and were very tolerant of my personal problems. Let this confession be an acknowledgement to them. I could write a book about this, and it would make interesting reading for every brass player. It might even be a good idea to write such a book, because I know there are many brass players with similar problems all over the world, it is just that nobody wants to talk about such problems. We behave like closed books, jealously hiding the secrets of playing brass instruments, but in fact by remaining silent we try to cover our own weakness. The other reason for developing the D.I.T. was hidden inside this weakness.

Summary

The D.I.T. is here. I must admit it has surprised me in many ways. Even I did not expect such good results. My professional colleagues and all the brass players who have had contact with the D.I.T. are also very surprised. It is unbelievable just how deeply it has anchored itself in my everyday work. Some of the brass players who have tested the D.I.T. tell me that they feel sort of strange without

the D.I.T., and that they somehow cannot start their daily training without using it.

I would like to explain why I have mentioned the B.E.R.P. quite frequently in this publication. I have not mentioned it because I wanted to praise my invention, but because the B.E.R.P. is the only expedient for the simulation of playing brass instruments that could be compared to the D.I.T.. The fact that the B.E.R.P. has served me as a point of reference illustrates that it was the only expedient for practising on the mouthpiece before the D.I.T. was invented. This is confirmed by the fact that James Thompson bases his new textbook for brass instruments exclusively on the B.E.R.P. But, as is often the case in life, every invention is unfortunately superseded by a new invention that puts the former in an inferior position. Therefore, I sincerely hope that Mr Mario Guarneri, who developed the B.E.R.P., will not resent the fact that in my comparisons the D.I.T. has proved to be a much better expedient for the simulation of playing on brass instruments than the B.E.R.P.. Every new invention is a subject to new technological findings. Mine will be as well!

In my texts, I have mainly focused on the instrument which means the most to me – the trumpet. I have occasionally referred to “brass instruments”, by which I meant the entire family of brass instruments. Allow me to briefly treat all the other brass instruments. What follows are some general findings about them.

The essential assertion, which is true for all the brass instruments and can be directly proved by using the D.I.T., is: everything that sounds on the mouthpiece sounds on the brass instrument as well; but we cannot assert that everything that sounds on the brass instrument sounds on the mouthpiece as well. The meaning of this underlined assertion, which has already been mentioned in the chapter “Reasons for Developing the D.I.T.”, is much deeper than it seems at first.

Dear brass players, you should take it as a warning that there is something wrong with your play-

ing if the D.I.T. stalls in the open position during playing. It certainly will not be the D.I.T. that stalls, it will be you alone, with your playing. Considering that fact, let me state here that when using the D.I.T. the moment of truth arrives when a brass player has to face his own ability or inability to play his brass instrument.

The horn is, without doubt, one of the brass instruments on which centering or focusing the tones is the most difficult. Due to the tube length of this instrument, the aliquot tones are very close to one another, so it is very difficult to play particular tones correctly, a fact closely connected to the centering of the tone. The problem of focusing the tone is usual for beginners, as well as for all horn players who have any sort of trouble. Since it is possible to play a glissando in all the registers of the instrument with the D.I.T., it enables us to play the tones throughout the frequency range of the instrument by focusing correctly. All brass players know that accompanying sounds, like gargling, often appear when playing the horn, because of the high density of aliquot tones and the lack of control over playing in the beginning phase. With the D.I.T., we can avoid this gargling, which is a consequence of the incorrect focusing of the tones, if we play an intonationally pure tone on the mouthpiece with the D.I.T. and then repeat it on the instrument after switching from the open to the closed position. A tone played in this way will sound beautifully and clearly, without any disturbing accompanying sounds.

Compared to horn players, trombone players have no trouble with aliquot tones, but they do have problems with the dosage of air. All players of the low brass instruments – tuba, baritone, tenor, trombone - ascertained while playing with the D.I.T. that the dosage of air is, of all the considerations, the main factor for playing the instrument successfully. The trombone is the only instrument on which a glissando would sound beautifully and clearly even without the D.I.T., provided it were being played correctly. Although

trombone players are used to playing glissandi, they were all surprised that the D.I.T. enabled them to play glissandi throughout the entire range, irrespective of their slide position. The D.I.T. also enables the precise location of any slide position, and it is very useful to pedagogues for explaining where a particular slide position is situated. If you sound any tone on the trombone in the first slide position, you can use the D.I.T. to define the placement of any other position exactly. For example, sound the tone f on the trombone, which is in the first position, then repeat this tone with the D.I.T. in the open position. Play by ear a minor third below, so that the tone d sounds, which is played in the fourth position. By closing the D.I.T., repeat this tone on the instrument and, at the same time, adjust the slide so that the same intonationally clear tone sounds. In this way you determine where the fourth position is situated in this particular case. In terms of the basic intonation, this position is

always in the same spot. You can find similar cases in the second chapter, Intonation. We can determine all the other slide positions on the trombone in a similar way.

I think it is necessary to share a few thoughts on how to use the D.I.T.. You can use it by playing daily warm-up exercises, and you can use it any time you are playing and suspect that your instrument does not sound as you would like it to. Every little mistake, even those that often sneak into one's playing through the side door, will become perceptible with the D.I.T. immediately, enabling you to correct it in time. Let the D.I.T. become your friend and guide to the right way of playing. I often felt hostile towards it, even though I knew why I had created it. Unfortunately it was my own dissatisfaction with my playing that reflected itself in this bad humour. The D.I.T. enables you to play at any dynamic level, but you



Presentation of the D.I.T. in its closed, semi-open and open position.

should play at the level that suits you best. The playing should not be forced, without exaggerated pressure and without focusing on the upper register. The ideal dynamic when using the D.I.T. for general control is mezzo forte. For solving specific problems, I recommend playing at the dynamic level which will later be demanded when playing on the instrument. In the description of practice on the mouthpiece with the D.I.T., I pointed out that the D.I.T. has two functions: the functioning of a mouthpiece and the functioning of an instrument. But both functions become one if you switch the D.I.T. to its half-open position. You play in exactly the same way, only that while playing you have constant control over intonation, control over playing with the mouthpiece and partial assistance from the instrument, because the additional air that comes into the instrument enables

the physical characteristics of the brass instrument to be established. Many brass players who have become used to the D.I.T. very much like to practise in this way.

Since the D.I.T. is a technical innovation, many brass players will not be able, or may not want, to accept it. This is especially true for those who have achieved a high level of quality in their playing without the D.I.T.. But an excellent standard of playing does not mean players have not faced problems with their instruments. I am aware of the fact that it is possible to play, one could say, brilliantly on all brass instruments without the D.I.T., but with the use of the D.I.T. the path to success is much easier, safer, faster, and above all, more reliable. That is why I think anybody who is in any way involved in brass playing should have the D.I.T.



The picture shows the prototypes of the D.I.T.-s.

The first prototype from right to left is not good, because it requires removal of the mouthpiece because of rotation, and besides, the inner conus is not filled up. The prototype is not fit for use, but it works.

The second from right is too heavy (160 g) and it is not compatible with the other mouthpieces. It works excellently!

The third from right is smaller from the previous one, it works, but it is not compatible to the other mouthpieces.

The third prototype from left to right is technically improved in comparison to the previous one. The structure is too complicated, it consist of six parts and it is not compatible with the other mouthpieces. It works.

The second from left is handmade, it was made unprofessionally, but it works excellently and it is compatible with all the mouthpieces.

The first from the left is the D.I.T. in its final form. It is compatible with all the mouthpieces for all the brass instruments. Let us compare the weight of the mouthpiece with and without the D.I.T.. The mouthpiece for the trumpet Bach 3C weights 96 g, the mouthpiece, prepared for setting up the D.I.T., weights 94 g, the D.I.T. weights 2 g, so the total weight is 96 g. There is no difference in weight of the mouthpiece without the D.I.T., and weight of the mouthpiece with the D.I.T..

The prototype of the D.I.T. was made in 2001. I started with lengthy, exhausting testing, which lasted until the patent application. During the testing period, I was refining the D.I.T. and searching for its final form, which I have now found. In this final version, the patent was applied for on the 3 December 2002, at the Patent Office of the Republic of



Slovenia – P-200200289. On 18 February 2003, the application at the International Patent Office followed – PCT/SI03/00004.

In the whole period of lengthy testing (daily practice, giving concerts, teaching) I did not notice a single defect. The current function of the D.I.T. is still exactly the same as that of the prototype. It is designed and crafted professionally, for the professional demands of brass players, because it needs to enable highly professional work. I think it is necessary to emphasise that the D.I.T. is fixed on the mouthpiece the whole time and enables undisturbed daily practice, perfect and faultless playing, concert performance etc. In the physical and technical sense, the D.I.T. does not change the functioning or initial structure of mouthpieces

and it does not have any effect on their initial characteristics. It is adapted so that it can be fixed onto any kind of world-famous brand of mouthpiece for all the brass instruments.

Just like your instrument, the D.I.T. also demands care and maintenance. I recommend that you disassemble it once a week. Together with the mouthpiece, wash it in warm water, then smear the sliding part and the rubber band with the same Vaseline that you use for your instrument. In this way, the D.I.T. will slide smoothly onto the mouthpiece and will function perfectly in the technical sense. Its acoustic functioning depends exclusively on the user.



I WISH ALL BRASS PLAYERS LOTS OF SUCCESS IN THE SOLVING OF PROBLEMS THAT ARE PART OF OUR DAILY PRACTICE. YOU WILL FIND THE SOLUTION FOR YOUR PROBLEMS IN [Daily Intellectual Training](#).

Igor Maroševič

Finally I would like to thank everybody who was in any way involved in my endeavour.

I would especially like to give thanks to two excellent master turners, Mr Jože Torkar and Mr Peter Torkar, who followed my capricious ideas with a great deal of patience and will, and who brought to life every idea that seemed unfeasible at first. They did everything without any professional plans - they just followed my

narrative. The prototype of the D.I.T. is proof of how hard the work really was. The prototype was made without any plans and was based exclusively on conversation and memory. They were often convinced that I would not have any comment on the product of their work, but I criticised it again and again, suggesting new solutions. They were really patient with me. Once again, thank you both.



Mr Jože Torkar with his son Peter by work. The D.I.T. is handmade and it is adjusted to the specific characteristic of the moutpiece.

I would like to thank the architect, Mr Anin Sever, who created the final image of the D.I.T.. He did this using computer techniques without any plans, just relying on memory with only a few measurements that had been written on a crumpled piece of paper. He is presented in this publication. Mr Anin Sever also designed

the D.I.T. logo. He has a special explanation for it, and there is a special reason for its coming into existence. The logo is open from the left and right sides, which in his opinion signifies openness, free passage, no limitation, everything that he spontaneously felt in the D.I.T.. Thank you, Anin.

Anja Tolar is an interesting person. She created a gentleman by the name of Josl. Mr Josl, with his accentuated personal characteristics, presents the reader with the essence of each chapter, as it must have been felt through the drawings by Anja, the illustrator. Anja, you have put such an intellectual atmosphere, and such wit, into the D.I.T. that I am very sorry our cooperation is over. Accept my thanks until the next project.



I owe special thanks to four brass players who accepted the D.I.T. without any reservation and

who believed in its quality from the very beginning, as shown by their daily use of the D.I.T.

These brass players are:

- Tibor Kerekes –first trumpeter, soloist of the Slovenian Philharmonic,
- Karli Bradač –first horn player, soloist of the Slovenian Philharmonic,
- Domen Jeraša- first trombone player, soloist of the Slovenian Philharmonic,
- Janez Žnidaršič –tuba player, soloist of the Slovenian Philharmonic.

Gentlemen, thank you for your upright posture.

What They Think About Testing the D.I.T.?

Domen Jeraša – First Trombone player, soloist of the Slovenian Philharmonic:

I had never been in favour of playing on the mouthpiece. The D.I.T. convinced me, and even pointed out mistakes that I could not solve by myself. With the D.I.T. you can check yourself every moment, because you are in a close contact with the instrument all the time. The D.I.T. enables the brass player to blow into the instrument correctly, which is critical for brass playing. The D.I.T. is an invention, an expedient for brass players, which will soon be a part of every decent “household”.



Tibor Kerekes – First Trumpeter, soloist of the Slovenian Philharmonic:

The D.I.T. enables us to have total control over the instrument, it enables us to establish a balance between the airstream, the pressure of the mouthpiece and the resistance. I have total control when centering/focusing the tones throughout the whole range.



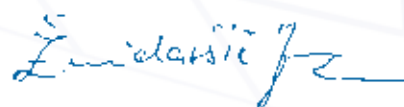
Janez Žnidaršič - Tuba Player of the Slovenian Philharmonic:

My observations when using the D.I.T. are the following: It is very useful when executing an attack in all registers. When playing with the D.I.T. the airstream is used more economically, and the D.I.T. also improves the quality of the tone (the vibration in the mouthpiece).

It is a very precise indicator of the mistakes which are present even if we ourselves do not notice them while playing. It reveals all the subtleties regarding the basics, and that can be very “painful” for someone who has played the instrument for quite some time.

I think this is a very good invention for everybody who wants to improve their tuba playing. I do not recommend it to absolute beginners because they could be put off the instrument itself.

Personally, I find the D.I.T. very helpful in everyday playing and warm-up exercises. Ever since I started using it, my attack and my intonation have improved. Also, I do not get tired as quickly as I used to, because the use of the airstream is much more efficient. In short – excellent. I wish everybody who uses the D.I.T. a lot of success. Thanks to Mr. Marošević for this wonderful invention.



Justin Felcijan – First Horn player, soloist of the Slovenian Philharmonic:

I have tested the D.I.T. and I have been using it in practice for a few months by everyday preparation for exacting playing in the Orchestra or in the chamber groups.

The D.I.T. is an expedient that intransigently takes care of the proper oral muscles activity and by the improper placing of the mouthpiece it persistently leads to the correction of the embouchure. By doing that it helps creating the optimal muscle activity, which enables a smaller consumption of energy and higher efficacy.

It is much easier with the D.I.T. for beginners as well as for older musicians to establish the best personal embouchure.

Since there is no need of replacing the mouthpiece, the practice is pleasant and the posture of the instrument remains unchanged during the using of D.I.T. and after it.

Thank you for the exceptional “present” to all the brass players!



Prof. Anton Grčar - University Professor at the Academy of Music in Ljubljana:

After comparing the D.I.T. with the B.E.R.P. and similar expedients I would like to express my thanks and acknowledgement to Professor Igor Marošević, who has, through years of experimenting, developed an expedient for vibration on the mouthpiece which is called the D.I.T. (Daily Intellectual Training). The D.I.T. has an absolute advantage over similar kinds of expedients that are available throughout the world.

The D.I.T. warns the trumpeter if he does not use the proper tension when playing separate tones or a sequence of tones (usually there is too much tension being used, but sometimes even too little). The pitch of the tone on the D.I.T. and that on the instrument have to be in total harmony. The D.I.T. is very sensitive and picks up every mistake of the embouchure (i.e., the muscles that surround the embouchure).

1. The D.I.T. is an excellent expedient for determining the embouchure. We could also say that it is the corrector of the airstream, it directs the airstream, or it is the tuner of the tones on the instrument etc.
2. It is very practical because it does not require the constant transference of the mouthpiece.
3. Whenever we are not absolutely certain about the pitch of the tone, we have control of the intonation near at hand.

In view of all of these facts, I recommend the D.I.T. to every brass player as an essential part of warm-up exercises at the beginning of playing on the brass instrument. That goes for both beginners and professionals. The D.I.T. enables one to stay on the right track ... too often one can go off track.



