Creative interpretation and cello technique: A pedagogical handbook in the tradition of Michael Goldschlager and Bernard Greenhouse

Sacha McCulloch

Edith Cowan University

Recommended Citation

You may print or download ONE copy of this document for the purpose of your own research or study.

The University does not authorize you to copy, communicate or otherwise make available electronically to any other person any copyright material contained on this site.

You are reminded of the following:

- Copyright owners are entitled to take legal action against persons who infringe their copyright.
- A reproduction of material that is protected by copyright may be a copyright infringement.
- A court may impose penalties and award damages in relation to offences and infringements relating to copyright material. Higher penalties may apply, and higher damages may be awarded, for offences and infringements involving the conversion of material into digital or electronic form.
Creative Interpretation and Cello Technique: A Pedagogical Handbook in the Tradition of Michael Goldschlager and Bernard Greenhouse

Sacha McCulloch

Bachelor of Performing Arts (Music) Honours
Music, Western Australian Academy of Performing Arts,
Edith Cowan University
December 2006
Thesis Abstract

In today's world there is an excess of talented cellists and yet there seems to be a lack of true artists among this wealth of virtuosi. This thesis attempts to examine the lost world of the humble artist through two of its few contemporary exponents, Bernard Greenhouse and Michael Goldschlager. The style of teaching and performing, and the overriding philosophy of music of these two eminent contemporary cellists is explored within the historical context of other great performers. A lineage is traced between these two, teacher and pupil, exploring the developments and consistencies between both cellists. The practical application of these ideas is then put forth in a new method for Cello created from practice journals kept during the author's studies with Goldschlager. The method considers first Musicianship and Philosophy and then moves into the aspects specific to cello Technique. It addresses overriding principles of technique and posture before moving into the minute details of left and right hand techniques. The method concludes with a discussion of practice methodologies as a practical application of the principles discussed in the previous chapters.
Acknowledgements

I would like to acknowledge the help and support of my supervisor, Dr Jonathan Paget, in the writing of this thesis. My sincere thanks also to Mr Anthony Maydwell, whose advice was of great assistance in finding a clear direction for this work. Of course my sincere thanks to Mr Michael Goldschlager, on whose teachings this method is based and whose playing is a constant inspiration.
Declaration

I certify that this thesis does not, to the best of my knowledge and belief:

(i) incorporate without acknowledgement any material previously submitted for a degree or diploma in any institution of higher education;

(ii) contain any material previously published or written by another person except where due reference is made in the text; or

(iii) contain any defamatory material.

I also grant permission for the Library at Edith Cowan University to make duplicate copies of my thesis as required.

Signed: ___________________________ Date: 16/07
Contents

Thesis Abstract ............................................................................................................................. i
Acknowledgements ......................................................................................................................... ii
Declaration ........................................................................................................................................ iii
Preface: A Historical and Philosophical Background ...................................................................... v
Creative Interpretation and Cello Technique: A Pedagogical Handbook in the Tradition of Michael Goldschlager and Bernard Greenhouse ............................................................... 1
1 Musicianship and Philosophy .................................................................................................... 2
  1.1 Why do we play? .................................................................................................................. 2
  1.2 Music dictates Technique ............................................................................................... 3
  1.3 Dignity .............................................................................................................................. 4
2 Big Principles ............................................................................................................................ 4
  2.1 Ease ................................................................................................................................ 4
  2.2 Timing .............................................................................................................................. 5
  2.3 "Big Muscles First" .......................................................................................................... 6
  2.4 Flow of Energy ............................................................................................................... 7
  2.5 Transference of Weight ................................................................................................... 9
3 Posture and Body Movement ................................................................................................... 10
  3.1 Seat and General Posture .............................................................................................. 10
  3.2 The Back and Shoulders ............................................................................................... 11
  3.3 The Right Elbow ........................................................................................................... 11
4 Left Hand Technique ............................................................................................................... 12
  4.1 The Fingers ..................................................................................................................... 12
    4.1.1 The Landing Area and Shape of the Fingers ......................................................... 12
    4.1.2 Articulation ........................................................................................................... 13
    4.1.3 The Hand ............................................................................................................... 15
    4.1.4 The Extension ....................................................................................................... 16
    4.1.5 The Contraction .................................................................................................. 18
    4.1.6 Speed ................................................................................................................... 19
    4.1.7 Expression .......................................................................................................... 20
  4.2 The Thumb ...................................................................................................................... 21
  4.3 Vibrati ................................................................................................................................ 23
5 Right Hand Technique ............................................................................................................. 24
  5.1 The Bow Hold .................................................................................................................. 24
    5.1.1 An Overview of the Bow Hold ............................................................................ 24
    5.1.2 The role of the Fingers in the Bow Hold ............................................................ 26
    5.1.3 The role of the Thumb in the Bow Hold ............................................................. 26
  5.2 Pizzicati ........................................................................................................................... 27
6 Creative Interpretation and Practice Methodology .................................................................... 28
  6.1 To Learn like a Child ....................................................................................................... 28
  6.2 A Four-Step Process for the Creative Application of Technique .................................... 29
    6.2.1 The Artist ............................................................................................................... 29
    6.2.2 The Architect ....................................................................................................... 30
    6.2.3 The builder .......................................................................................................... 30
    6.2.4 The Observer ....................................................................................................... 31
  6.3 A Comparison of Practice Methods .................................................................................. 31
7 Conclusion .................................................................................................................................. 33
8 Bibliography .............................................................................................................................. 34
Preface: A Historical and Philosophical Background

This section is dedicated to describing the historical background and tradition that has lead to the technique and pedagogical style of the handbook to follow. The opinions given below are done so to highlight a tradition of thought and a set of priorities that this particular lineage of musicians believe to be the best possible approach to the instrument.

From the standpoint of technical proficiency there is an immense profusion of talented cellists in our modern era. The market is in fact saturated with the number of performers who are achieving incredibly high standards as never before. Why is it then that we do not see the same extreme proliferation of true artistry? It appears that in a musical world obsessed with technical perfection we have, to some extent, lost the artistic motivation behind it all. In an industry where microediting of recordings (to achieve technical perfection) is the norm, many musicians avoid the kind of spontaneous creativity and risk-taking that gives birth to truly great art. It appears that we have become obsessed with technical virtuosity above artistry—to the detriment of our art form.

Over the last two and a half years I have studied under the mentorship of New York born, Australian cellist, Michael Goldschlager\(^1\). An esteemed chamber musician who has also worked prominently as an orchestral player, soloist and teacher, Goldschlager is a strong advocate of the philosophy that the musician serves the music.

---

\(^1\) Michael Goldschlager, American born, Australian cellist. Has held positions as the principal cellist in the Sydney Symphony Orchestra, Western Australian Symphony Orchestra and the Australian Chamber Orchestra. Cellist with the Macquarie Trio Australia.
It is a philosophy that can be traced to his teacher, the gifted Bernard Greenhouse, and from Greenhouse to the great Pablo Casals. From this basic standpoint extends an approach to music, one which informs both technique and teaching philosophies.

Greenhouse was a student of two of the great giants of the cellistic world, Emanuel Feuermann and Pablo Casals. In Greenhouse’s opinion, Feuermann, although a gifted virtuoso, was not as concerned with the integrity of interpretation over technical feats. On the other hand, Casals was only concerned with what the music required, what the composer was trying to say. Greenhouse reflected:

My work with Feuermann was very different than with Casals. Feuermann was young and cocky, and confident of his abilities... He was a real virtuoso and a compete contrast from Casals, who could play anything and had superb technique on the instrument, but who always used his technique in the direction of making music and expressing the musicality, never to show his wonderful facility.

Casals would change a virtuosic bowing to a simpler one to better convey the music. As Greenhouse recounts:

He did not search for virtuosity... The style and direction of his playing and his teaching were not that way, Feuermann, on the other hand was quite the opposite.

---

2 Bernard Greenhouse (b. 1916), American cellist who was a student of both Casals and Feuermann was a founding member of the Beaux Arts Trio.

3 Pablo Casals (1876-1973), Catalan cellist considered by many to be the greatest ever. He was of the firm belief that technique must serve the music.

4 Emmanuel Feuermann (1902-1942), Austrian cellist who is thought by many to be the greatest virtuoso on the cello.

5 Owen, Bowed Arts, 144

6 Owen, Bowed Arts, 144
Feuermann, according to Greenhouse, was not the most inspiring of teachers. A true prodigy he was unable, it would seem, to sympathise with his students’ struggles. He was also discouraging when it came to his students’ goals. Greenhouse relates that, in an attempt to dissuade him [Greenhouse] from pursuing a concert career, Feuermann “was very discouraging and said that trying was useless and that I should not waste my money.”7

Feuermann’s focus as a teacher revolved heavily around the left hand technique, (although he neglected the precision of articulation that Casals emphasised), rather than the creation of different colours and musical ideas. It is important to emphasis here that Feurmann playing is highly emotional and shows an exceedingly high level of artistry. The charges laid at his door by Greenhouse only serve to highlight the extreme level of artistry of Casals in his comparison and not to prove a deficiency in Feurmann’s work. Feuermann’s facility was truly breathtaking, and yet as a teacher, a continual focus on the left hand would be to the detriment of the bow, which is the primary tool for expression on the instrument.

On the other hand, lessons with Casals were spent in deep discussion of musical interpretation. Understanding the architecture of the line or musical phrase (which Casals refers to as the ‘rainbow’) was of the utmost importance. Only after a proper understanding of the architecture of the phrase is achieved can the performer shape it properly, giving every individual note its proper place in the larger gesture. And it is this detailed understanding of the relative importance of each individual note in the phrase

7 Owen, Bowed Arts, 135
that is the foundation of all technical and fingering decision to be made. In this way, interpretation determines technique and not the other way around. It is this primary concern with the needs of the music over and above mere technical concerns that has defined the tradition of playing and teaching to which both Greenhouse and Goldschlager belong.

Greenhouse first auditioned for Casals in Prades. When he had finished playing Casals asked him to put away the cello. He [Casals] said:

‘Well, what you need is an apprenticeship to a great artist. I believe in the apprentice system. Stradivari, Guarneri, Amati: they turned out so many wonderful violin makers. And I believe the same thing can hold true in making musicians.’

The pedagogical style of Goldschlager is this master-apprentice model. It can be traced from Greenhouse to Goldschlager and Casals to Greenhouse. As Greenhouse himself states, “I have copied the master-student style of teaching [that] I learned from Casals.”

Greenhouse was also a student of Diran Alexanian for a time. Alexanian is undoubtedly one of the greatest pedagogues of our century and wrote the definitive treatise on cello technique. However, according to Greenhouse, he was not a particularly great player. Alexanian was an exceptional technician and his considerable analytical skills helped to make him a respected teacher. Greenhouse’s gripe with Alexanian,

---

9 Owen, *Bowed Arts*, 175
10 Diran Alexanian, student of Grueztmacher and a contemporary of Casals. Wrote a definitive treatise on the cello later endorsed by Casals. *dates title*
however, is that his discussions centered on ease of technical facility and were less concerned with tone production. This is not to suggest that Alexanian’s tonal production was not exceptional, but rather that his primary focus as a pedagogue was centered on technical issues rather than their end result.

For Casals, Greenhouse, and Goldschlager, everything that we do technically is for the specific purpose of creating the sound required and imagined. This said, it is important to remember that even Casals used Alexanian’s edition of the Bach suites, and that Casals and Alexanian argued over a single phrase’s interpretation until one in the morning. Months later, it was Casals who conceded to Alexanian in a postcard.¹¹

Piatigorsky¹² is another giant of the cellistic world. He is renowned for his sensitivity as an artist yet Greenhouse was reluctant to study under him. Greenhouse explains:

He was an extremely overt player. Occasionally I was a bit put off by some of the liberties he took during performances and I did not want to build my own playing on his freedoms.¹³

Greenhouse was also an admirer of Janos Starker.¹⁴ Still, he felt that Starker was not sufficiently engaged with the music on an emotional level. He reflected on Starker:

He is a beautiful musician, but always kept a reserve and distance between himself and the music. I, on the other hand, was always involved in

¹¹ Information from recollection found in: Owen, Bowed Arts, 140.

¹² Gregor Piatigorsky (1903-1976), Ukrainian born, American cellist. Former principle of the Berlin Philharmonic he was also an eminent chamber musician and soloist.

¹³ Owen, Bowed Arts, 159

¹⁴ Janos Starker (b. 1924), Hungarian born, American cellist. One of the most noted soloists and pedagogues of our day.
discovering and projecting to the listener the deepest emotions of the composer.\textsuperscript{15}

Mstislav Rostropovich\textsuperscript{16} is another contemporary of Greenhouse. In his biography, Bowed Arts, Greenhouse comments:

All of Slava’s students are big powerful players. If they do not have that kind of huge projecting sound he does not want them. He said to me once: ‘People pay a lot of money to hear me play. I have to make sure that I’m heard.’\textsuperscript{17}

Greenhouse is ambiguous about his opinion on this but Goldschlager is always conscious of playing with dynamics appropriate to the hall. An important part of his practice technique is preparing a sound appropriate to the particular hall of an upcoming performance. “No practice room dynamics,” is Goldschlager’s mantra.\textsuperscript{18}

Greenhouse remains in high demand for master classes around the world. In these classes, he gives many performance insights, but also aims to communicate the knowledge and skills necessary to become an outstanding cello teacher. Goldschlager recalls his own experience of Greenhouses’s classes:

They were incredible experiences because he first asked the rest of the class to comment before adding his own. He then worked with the commentator about their observations, and in that way helped us to become both precise observers and careful teachers.\textsuperscript{19}

\textsuperscript{15} Owen, Bowed Arts, 166

\textsuperscript{16} Mstislav Rostropovich (b. 1927) Russian cellist and famous soloist. Founder of the Mstislav Rostrapovich cello competition.

\textsuperscript{17} Owen, Bowed Arts, 165

\textsuperscript{18} Michael Goldschlager as quoted in journals compiled by the author, Western Australia (2004-2006)

\textsuperscript{19} Michael Goldschlager, Western Australia, interview by author, 16 June 2006, Western Australia, email.
One of the distinct qualities of Greenhouse’s teaching style that is mirrored in Goldschlager’s own teaching is that of inspiration. To quote Goldschlager, “teaching is ninety percent inspiration and ten percent information.”\(^{20}\) The information is always there. It is inspiring the student to discover this information that should be a teachers’ primary goal.

Another hallmark of both Greenhouse and Goldschlager, is their belief in demonstration as a powerful teaching tool. With both of them, their instrument is never out of arm’s reach. This core tenant rests on the premise that humans are programmed to learn through imitation. As Greenhouse states,

I find that I only need to show them the possibilities... then allow them to experiment. Soon they develop a beautiful and varied sound for themselves.\(^{21}\)

This variety comes from the imagination of the student which is encouraged to become a vital and ever present part of the student’s learning process. Words are sometimes not even required, as Goldschlager has, on occasion, used imitation to teach students who did not even speak the same language.

Goldschlager goes even further to explain that the power of demonstration as a teaching tool is not simply because of the ease through which we learn by imitating. The demonstration of excellence also creates a strong and lasting impression in the mind of the student. For instance, Goldschlager relates the following: “I still carry vivid images

---

\(^{20}\) Michael Goldschlager, Western Australia, interview by author, 16 June 2006, Western Australia, email.

\(^{21}\) Owen, *Bowed Arts*, 176
of [Greenhouse’s] hands and his whole physical self at work, and [more than thirty years
on] the images help me in my work today.”

There are some distinct differences from Greenhouse’s technique to
Goldschlager’s contained in this treatise. As Goldschlager notes, “there is no right and
wrong” when it comes to technique. But we can clearly see some small, yet significant,
changes in cello technique from the time of Casals to the present. Technique has
certainly evolved over the years. Moreover, Goldschlager is committed to the continual
development and improvement of his own technique.

The use of extensions is one element of left hand technique that Greenhouse
completely eliminated from his playing, as did his teacher Feuermann. Instead, they
favoured quickly shifting between notes and maintaining a closed hand shape. While
Feuermann’s facility was breathtaking, and neither he nor Greenhouse obviously suffered
from the lack of use of the extension, there are great physical differences between these
players. Goldschlager, like Alexanian, uses his larger hand size to reach intervals that
other players would not attempt. Obviously, a stretch that would cause stress to a smaller
player’s hand will not do so for a player with larger hands. There is no reason, therefore,
for the larger player to avoid the same extension. Extensions are quite common today,
even for players with smaller hands, and many are able to use them without physical
discomfort or strain. That Greenhouse maintains his stance on not using extensions does
not mean that they should be abandoned by all.

The use of the straight thumb on the bow hand promoted by Greenhouse (for extra
power) is also not so stringently supported by Goldschlager. Goldschlager’s concern is

---

22 Michael Goldschlager, Western Australia, interview by author, 16 June 2006, Western
Australia, email.
that the thumb never becomes locked, whether in a straight or bent position. Whether the
thumb is bent or straight is not the primary consideration so much as a lack of tension in
the joint.

On the other hand, the use of the back and the torso as the foundation of technique
is a very strong emphasis for both Greenhouse and Goldschlager, and the resultant effect
is an immense power produced with relative ease. This is especially important when
playing in a piano trio, which has been the mainstay of both players’ careers. Both
cellists consider this medium to be a soloistic exercise in terms of virtuosity and requisite
sound production.

There is also a consistency in their approach to the shape of the left hand; both
suggesting that it remain slanted back off the diagonal. This allows the finger to catch
the string deeper into the pad of the finger, thereby providing a more secure landing
space. A square hand shape, with excessively curved fingers, tends to lead to a much
narrower landing area (close to the tip of the finger).

Greenhouse, however, promoted a much straighter finger shape than Goldschlager
now does. Goldschlager has commented that there have been developments in technique
since his studies with Greenhouse and that he does not always do things the way
Greenhouse might.23

Goldschlager and Greenhouse were both heavily influenced by the human voice
in making decisions to do with phrasing. In an interview with an American radio station
Greenhouse said,

23Michael Goldschlager, Western Australia, interview by author, 16 June 2006, Western Australia, email.
It's a love affair between the instrument and me. It's part of my body. It's my vocal cords. It's the way I sing.  

Greenhouse laments that in his opinion, a more vocal style of cello playing is being lost. He believes that all intervals can be articulated best when we know the relative difficulty of how they are sung. It is not surprising then that Arturo Toscanini said of Greenhouse "Chef Bella Voce!" Goldschlager was heavily influenced by Greenhouse's approach to tone and a variety of colors. Goldschlager relates:

Every note that Bernie [Greenhouse] played was delivered in a way that was appropriate for what the note was in its context. His playing didn't offer unexplained slides, unexplainable vibratos, unexplainable accents. Every detail was considered and given appropriate treatment. I don't think there has ever been a player who did that better than Bernie.

Both cellists profess the importance of combining vibrato and bow speed to produce beautiful tones. But as Greenhouse constantly reminds us in his master classes, beautiful sounds don't matter without variation.

Young players are satisfied with having a luscious beautiful sound without variation. Understanding and executing a variety of tone colors is one part of the learning processes that is skipped over.


25 Owen, Bowed Arts, 16.

26 Michael Goldschlager, Western Australia, interview by author, 16 June 2006, Western Australia, email.

27 Owen, Bowed Arts, 177.
This is certainly an aspect Goldschlager has attempted to remedy in his teachings. Greenhouse was strongly respected for his dedication to exploring the infinite world of possibilities with regard to sound. Lluis Claret noted,

He forcefully demands that one uses as many colors as possible, by the change of the vibrato, the speed of the bow and accentuation, but always with respect to the text and not, as one hears so often, to impress the public. It is the depth of his musical discourse that impresses me. 28

Perhaps the most important point to be made when discussing this tradition and philosophy of cello playing is that it needs to be passed on to future generations. Too many performers are so caught up in the struggle for technical proficiency that they have lost sight of its purpose. Some have been seduced by the burning heat of the spotlight, to indulge their egos in unbridled virtuosity at the expense of the soul of the music. In resisting these trends, there is arguably as much influence to be gained from teaching as from performing itself. For Casals, Greenhouse, and Goldschlager, this was and certainly is the case.

In summation, there is a clear lineage of pedagogical style passed down through these three cellists. Goldschlager has remarked “when I have read Casals’ writings, I hear Greenhouse through and through, and when I hear myself teach, I hear it too.”29 The most important aspect of their collective approach is that they exude an intense love of the instrument and of music itself. Lluis Claret comments on Greenhouse as follows:

Every moment of a class with Bernard Greenhouse exudes his love of the violoncello and music. All his undying energy is directed to motivating the

28 Owen, Bowed Arts, 121.

29 Michael Goldschlager, Western Australia, interview by author, 16 June 2006, Western Australia, email.
pupil, to shaking him to his deepest core so that he dares to give the best of himself. 30

Greenhouse saw teaching as both a joy and a duty. He states the following:

The greatest gift that a performing artist can give to the young is his collected knowledge gained through association with a generation of giants of the past. We who are fortunate to carry on this legacy search for the means to reach out to as many of the ambitious young as possible. 31

Another idea implicit in Greenhouse's statement above is the idea of knowledge. Similarly, in Goldschlager's teaching, students are urged to educate themselves with regard to the music they play. For him, this is part and parcel of being deeply engaged with the music. He will not allow notes to be played without intent or reason. For this reason, the student is urged and encouraged to delve deep into the style and history of any given composition (even etudes). Sound musical interpretation must be based on a thorough and intense knowledge of the repertoire. The goal is to find the essence of what the composer was trying to achieve. As Greenhouse states, "a successful phrase should send the same emotional effects through the performer's body and soul that went through that of the composer." 32 Obviously, it would be a fallacy to suggest that we can ever really know what the composer was thinking. The important point, however, is that it is important for the performer to ask themselves these exegetical questions before proceeding to hermeneutical issues. It is an essential part of the interpretative process.

Goldschlager states:

30 Owen, Bowed Arts, 121.
31 Owen, Bowed Arts, 174.
32 Owen, Bowed Arts, 183.
We must constantly ask ourselves, 'What does the music need?' 'What did the composer want here?' And our own style of playing is the last factor to consider. That quite correct humility is something that I feel is relatively rare these days, but I feel that it's the only honest way to be a performing musician.³³

For Goldschlager, these questions are part of a life-long learning process.

Goldschlager comments that he learns constantly from his students (an opinion also shared by Greenhouse). To learn from one’s students is arguably what keeps teaching interesting. Greenhouse also maintains that this helps him to be reminded of his youthful thoughts concerning both music and the cello. Similarly, both Greenhouse and Goldschlager maintain a constant desire to improve their own playing and in doing so inspire their own students to continue with their own struggles.

In my experience with Goldschlager, I have witnessed and been a part of the legacy of this teaching tradition. The method outlined below was compiled from journals kept during my studies with Goldschlager. It describes a way of learning and a way of playing that honours the music and the intentions of the composer before the personal aspirations or limitations of the player.

³³ Michael Goldschlager, Western Australia, interview by author, 16 June 2006, Western Australia, email.
"Though today I often find in musicians a lack of musical inventiveness and the absence of a stamp of personality, I take heart in believing that eventually players will look beyond mere instrumental perfection... Interpretation is an art form and offers limitless possibilities. Many are satisfied with technique because the next step is so difficult. Claim the courage to create your own speech!"  

This handbook is set out in three main sections. The first relates to the mental aspects of playing the cello, addressing both the mindset of the player and the fundamental issues to be kept in mind. This is contained in chapters 1 and 2. The second part of the handbook deals with the physical aspects of the playing the cello and the intricacies of technique. This section contains chapters 3, 4 and 5. The final section, chapter 6, is the crux of both the handbook and the thesis. It is by far the most important, dealing with the creative application of what has gone before.

34 Greenhouse, In Owen, Laurinel, Bowed Arts – reflections of Bernard Greenhouse on his life and music (Kronberg im Taunus: Kronberg Academy Verlag, 2001), 186.
1 Musicianship and Philosophy

1.1 Why do we play?

The purpose of music and therefore, of the musician is to move people, not to gratify the ego or to elevate the performer.

The question of why we play is seldom asked of young musicians, yet is essential to the development of a mature musical performer. If the purpose of music is to move people, to be exquisitely beautiful, joyful, uplifting, melancholic, heroic, spectacular, tragic, poignant, or simply diverting, then music is not about the person playing it. It is not the performer but rather the performance that is important. This removal of ego is, in many ways, freeing to the performer; but it is also exceptionally challenging. The goal is not so much to produce a signature sound, but rather to harness a wide variety of sounds in the service of musical interpretation. Perhaps the most difficult part of this process is the submission to the composer’s wish. The performer must resist the temptation to disregard the composer’s desires in favour of personal choice. Goldschlager insists:

It isn’t about you. You should aim to be just a pane of glass from which the ideas of the composer are filtered to the audience. The better a musician you become the thinner and clearer this glass becomes.\(^{35}\)

However, this process of ‘removal of ego’ does not remove the performer’s power and responsibility to make interpretative choices but insists, rather, that they be informed decisions.

\(^{35}\) Michael Goldschlager as quoted in journals compiled by the author, Western Australia (2004-2006)
1.2 **Music dictates Technique**

If the purpose of music is to move people then musical interpretation must always take precedence over technical ease. The performer should let the music dictate the techniques to be employed, rather than attempting to create a desired sound with a generic technique.

The practical aspect of this philosophy of “music first” is not in the ‘why,’ but in the ‘how.’ The ‘how’ is, of course, the technique employed to play the cello. When we know why we are performing, it is easier to gain a clearer picture of what it is we are trying to present.

The player should, to quote Goldschlager, “attempt to hear with the ear of the composer.” Once the aural image of what the player is trying to achieve is well described, the ‘how’ is the next step.

When approaching a new work then, the player should not find a fingering that is comfortable and then attempt to make it musical, but rather should search for the ideal technique to deliver exactly what it is that they hear in their aural imagination. It was presumably in this way that technique was originally driven and developed. The idea that it is our *duty* as cellists and musicians to be imaginative can therefore be liberating.

---

36 Michael Goldschlager as quoted in journals compiled by the author, Western Australia (2004-2006)
1.3 Dignity

What we do as performers, musicians, and cellists contains inherent nobility that should not be shied away from but embraced and upheld.

Words like ‘duty’ should not be daunting to the cellist. To be a cellist is to be part of a long, beautiful, proud, and inspiring lineage. What we do as artists feeds the collective soul of our society. It is what is great about any civilization. What we do, then, should be approached with dignity as well as the humility incumbent in anything done for the benefit of others. These ideas are especially important as an antidote to the performer blinded by the glory of the spotlight or the pressure of it.

2 Big Principles

2.1 Ease

Technique should always be designed to feel easy and comfortable. To play with tension in the body will always result in reduced ability.

As far as the cellist is concerned, tension is the root of all evil. Almost all technical errors can be reduced to an issue of tension. The removal of tension is not an end in itself. However, excessive tension will arguably only inhibit the creative interpretative process. It is therefore of fundamental importance that ease of movement is maintained
at all times. There will, of course, be situations in which this will be impossible to achieve, but it is only rarely\textsuperscript{37} that tension is required (for musical or technical reasons). For simple practical reasons, then, it is important that ease is a priority when working. All actions need to be "reliable, repeatable and comfortable".\textsuperscript{38}

Ease is something that must be practiced rather than a result of practice done struggling through difficulties. The reason that a player looks effortless is because he/she has practiced with ease, not fighting against tension. To achieve this ease of motion, the performer must master the principle of timing.

\section*{2.2 Timing}

"The essence of ease is anticipation and timing"\textsuperscript{39}. Movements that are anticipated and prepared with a specific rhythm and timing are far more reliable, repeatable and comfortable.

In this context, timing does not refer to the beat or the rhythm of the notes, but rather to the preparatory motions of the larger muscles, which must move at specific times within the beats. The timing of every motion of preparation and action results in a careful choreography. The player must build a very specific muscle memory of not only what

\textsuperscript{37} For example in the execution of tremolo or with quickly reversing strokes. It is also required for the production of an especially tight or narrow vibrato

\textsuperscript{38} Michael Goldschlager as quoted in journals compiled by the author, Western Australia (2004-2006)

\textsuperscript{39} Michael Goldschlager as quoted in journals compiled by the author, Western Australia (2004-2006)
happens but also when it happens. Although this may seem a daunting task, it is relatively easily mastered with correct practice and an acute awareness of the body and subdivisions of the beat.  

Without an accurate sense of timing, the choreography of any technical event will differ from repetition to repetition. Because the body is not practicing and repeating one purposeful action, it is, in fact, learning a collection of possibilities rather than a desired solution. It is obvious then which method will produce more reliable results.

2.3 “Big Muscles First”

In order to anticipate any technical feat effectively, the larger muscles must be moved prior to the smaller ones. This reduces strain on the smaller muscles and maintains good form at the more intricate end of the system.

In the previous two chapters, we have been alluding to the use of preparatory motions. It is an important principle in string playing that the big muscles move first. Cellists put an extraordinary amount of strain on relatively small muscles, which often leads to injuries such as RSI. It is therefore important that the smaller muscles take on as little of the

---

40 For example, correct timing will ensure that the elbow has already arrived at its new placement over a position change before the finger is required to leave. It will dictate how early the finger must abandon the previous note in order to reach the next in time. It will dictate when the player shifts their body weight in preparation for a bow change or sforzando chord.

41 Michael Goldschlager as quoted in journals compiled by the author, Western Australia (2004-2006)

42 Repetitive Strain Injury
workload as possible, thereby reducing the risk of injury and increasing the ease and stamina of the player.

Everything must be done to maintain the shape of the finger as it contacts the board and the way the bow is drawn across the string. To this end, the hands, wrists, elbows, shoulders, back and entire torso, are manipulated. All these aspects are manipulated prior to the event so as to prepare the smaller motions actually required to complete the move. For example, the preparation of the elbow in a shift is illustrated in figure 1.

Figure 1: From left: (i) the original elbow position; (ii) prior to the shift; (iii) retaining the new position after the shift

2.4 Flow of Energy

Maintaining good lines in body and especially in the arms, allows a natural flow of energy. We are speaking here of the natural transfer of weight without the interruption caused by poor form.

---

43 For example the left elbow moves forwards in preparation for an ascending shift on the cello so that it is in the position that will maintain good hand shape at the new note before the finger leaves to arrive there. Likewise the right elbow will lift prior to a string crossing from a lower string to a higher so that a relatively small motion of the wrist realigning with the elbow completes the move with much greater ease.
In order to play with minimal effort, it is important that from the right shoulder, (held low) to the fingers there is a constant downwards slope (see figure 2). This requires that, at all times, the right elbow is above, or at least level with, the wrist. In this system there is limited interruption to the line between the shoulders and the fingers resulting in a maximum transference of energy, primarily in the form of weight. It is also important to maintain a line from the elbow to the second row of knuckles on the left hand. This will prevent any excess bending (and therefore strain) of the tendons, thereby maximizing flexibility, endurance, and strength.  

Figure 2: The continuous downward slope from shoulder to bow.

44 With the bow hold the fingers will sometimes bend from the first row of knuckles and the wrist, (only downwards) instead of the second row of knuckles but this should never be pronounced.
2.5 Transference of Weight

Shifting the natural body weight of the player is the most effective and efficient way to produce both power and fluidity.

The peremptory transference of weight before any movement necessary in playing the cello will increase power, ease, speed, and flexibility. For example, the player should rotate their left hand in order to shift the balance of weight behind the finger in use. By shifting weight early the finger becomes filled with potential energy, giving the resultant strike more power. This principle extends from the hands down to the player’s seat. The greater the power required, the more exaggerated the transference of weight should be. For extremely loud playing, it is advisable that the player to sit slightly to the right and rear of their median sitting position. This will engage the front abdominals and left side oblique muscles to support the player’s torso, thereby freeing the back and right side muscles to only be used for the production of power. It is an apparent difference between amateur players and professionals that the amateur will lean forward into the cello in a forte section whereas the professional will come back away from the cello.

It is important to note the difference between pushing the bow into the string and allowing your natural weight to rest in the stick. The former method will crush the string and choke the sound whilst the latter will allow the bow to draw a larger sound out of the cello.

45 This use of this principle becomes most apparent in the case of a trill, in which the weight should reside behind the highest finger.

46 When pulling a down bow the player should slightly shift their weight to the right sit bone while still playing the up bow and vice versa.
3 Posture and Body Movement

3.1 Seat and General Posture

The body should be supple and well-balanced.

This area of technique is subject to much debate. The primary difference between schools of playing here is between those who favour the bent spike and those who favour the straight spike. The use of different spikes also influences the player’s position on the seat. The fundamental principles, however, should remain the same.

The height of the chair should be appropriate to that of the player. It is important that the thighs of the player should be level or sloping downwards slightly. Having the knees higher than the hips tends to push the player backwards and create strain on the back. The feet should be grounded with the heels in good contact with the floor and the toes facing slightly outwards.

Shoulders should be square to the hips and pulled down and backwards, with the back straight but supple. It is important that the head should rest comfortably on top of the spine rather than being pushed forward, (as is a common problem for cellists). This prevents any extraneous use of the muscles of the neck and back and thereby avoids unnecessary tension.
3.2 The Back and Shoulders

The shoulders should be held soft and low.

The raising of the shoulders, which is common with cellists, both results from tension and is a cause of tension. There is no circumstance in which the right shoulder should be raised. In extreme position changes on the instrument the left shoulder will often have to be manipulated to preserve the shape of the finger striking the fingerboard. For example, when playing in lower positions on the A string and when using a descending shift it is common for the shoulder to shrug upwards. To avoid this, it is better to pull the shoulder downwards and backwards prior to the shift, so that the hand retracts to the shoulder rather than with it.

3.3 The Right Elbow

The elbow should always maintain a height greater than or equal to that of the wrist.

When considering the movement of the elbows, it is important to remember that they move independently of the shoulders. In the most basic terms, the right elbow (the bow arm) is lifted to cross to a higher string and dropped to cross to a lower string. However, the left elbow works on the opposite principle. When shifting to a higher\textsuperscript{47} position on the fingerboard with the left hand, the elbow should move forward and back for a lower

\textsuperscript{47}It should generally be supposed when discussing direction with the cello we are speaking in terms of pitch rather than physical location. Therefore higher should be taken as closer to the bridge and lower as closer to the scroll.
position. Shifting the position of the left elbow is also used to open up the hand in anticipation of an extension.

4 Left Hand Technique

4.1 The Fingers

4.1.1 The Landing Area and Shape of the Fingers

The landing area of the finger must be constant, comfortable and reliable.

The string must be deep enough in the finger tip for there to be sufficient flesh to securely pin the string without the danger of it slipping out (as illustrated in figure 3). The use of a slightly angled wrists (rotated backwards) will cause the finger to strike the string on a slight diagonal. The shape of the fingers should be described by a curve beginning from the second row of knuckles. If a linear line is maintained from the elbow to this row of knuckles, then this curve will occur naturally. Although the shape described is sound in principle, there are always exceptional scenarios where a different shape will be required.

48 The finer the player’s fingertips then the deeper in position the landing pad will be.

49 Awkward double stops will often result in the played being forced to use an unconventional landing pad and sometimes even the nail. For example the excessively curled first finger in a third in thumb position is commonly pinned this way or with a ‘broken’ top knuckle shape. The fifth will always require a flattened finger.
4.1.2 Articulation

Left hand articulation refers to the incisive and appropriately powerful shortening and lengthening of the string with the fingers.

Although used constantly, left hand articulation is most important in instances when the bow cannot provide the clarity required to articulate the notes adequately.\(^5\)

Left hand articulation consists of two motions: the hit and the pluck. When the notes are ascending on a particular string or the next note is on another string, the finger

\(^5\) This most commonly occurs in slurred bowings or quiet dynamics
must strike with an incisive action and sufficient power to activate the string before the bow begins the stroke. The power used should be sufficient to set the string in motion, but no more. Excessive pressure is unnecessarily fatiguing to the hand and can lead to injury.

The other technique employed in left hand articulation is the pluck off (as shown in figure 4). This motion is used when descending without shifts. The motion used is actually a closing of the finger into the palm of the hand, pulling the finger off the string sideways to activate it, creating in effect a pizzicato. Without this action, the string length that was not previously vibrating takes a moment to be activated by the bow, leaving an instant of silence where there should be none. The use of this articulation therefore creates a seamless effect in the passage.

---

51 The speed with which the string is cut off at its new length will affect greatly its clarity. A slower motion or a squeezing down of the string allows the indeterminate pitches in between the two notes to be heard creating a muddied effect.

52 An important physical advantage of this technique is the use of the closing muscles on the underside of the lower arm to complete the move, as opposed to the use of opening muscles on the upper forearm required to lift the finger. The closing muscles of the human body are always significantly stronger than their opposing opening muscles. A major culprit in the prevalence of RSI in string players occurs here in the upper forearm and because of poor technique. By using the stronger muscles we reduce the workload on our bodies and are therefore able to play longer, avoid injury and, most importantly, to play with greater ease.
Figure 4: The pluck into the palm in left hand articulation.

4.1.3 The Hand

The hand should remain soft and supple at all times. The optimal angle of the palm to the fingerboard is rotated backwards very slightly, pulling the fingers slightly diagonal.

The angle of the palm to the fingerboard should come from the elbow as a rotation of the whole forearm. By rotating the hand so that the first knuckle of the first finger is kept lower to the board, its length is compensated for by forcing it into a tighter curl. The ideal hand shape would actually have the first finger as the shortest digit. This angle of the hand also serves to force the third finger closer to the fourth rather than the second finger. The natural tendency of the human hand is for the second and third fingers to cling together. By pulling the hand off the square angle the third finger is naturally shifted down towards the fourth—which helps facilitates accurate intonation, as the semitones become closer in physical spacing higher up the fingerboard.\textsuperscript{53}

\textsuperscript{53} The above described shape is once again a good general starting point but the angle of the hand, like all aspects of a good technique is a dynamic system rather than a static point.
Some freedom of movement in the angle of the palm to the fingerboard is necessary to efficiently negotiate the transfer of weight from finger to finger. Cellists commonly refer to these adjustments in the angle of rotation of the hand as the 'pivot.' As previously highlighted, having the weight of the hand behind the individual digit being used aids in the production of a powerful tone and facilitates the execution of faster passages.

4.1.4 The Extension

Extensions should be of short duration to minimise the strain on the hand.

The use of the extension is heavily dependent of the size of the player’s hand. Players with larger hands will often employ a greater number of extensions (including somewhat unusual ones) rather than shifts, in order to achieve a true legato line.

The extension is best achieved between the first and second fingers or between the thumb and first finger, although players with larger hands may well also be able to

---

54 If an imaginary axis is placed between the second and fourth fingers then there are two fingers on either side of the pivot point. When the first finger is used the angle of the hand should be rotated back to its furthest point and likewise forward for the use of the fourth finger. The middle fingers work on the same principle but with less rotation. The use of this rotation gives each finger the power of the weight of the hand behind it for each strike.

55 Feurmann and Greenhouse advocate a technique devoid of extensions whereas Starker is noted to have advanced the use of the extension in cases when it was not required but did provide continuity of finger patterns. Leonard Rose’s editions of some works show he also was in favour of using his larger hands to reach unconventional fingerings.
produce them between other digits. By bringing the palm of the hand closer to the finger board, the first finger will be pushed into a tighter curl. The subsequent extension of the second finger will allow a maximum distance between the two fingertips. This can be seen in figure 5. Many cellists choose to extend in a more horizontal shape, thereby preserving the placement of the elbow, as shown in figure 6. The former technique is preferable, however, not only for its superior reach but also due to the fact that it causes far less stress to the hand.

The most important aspect of the technique of extending is brevity. The hand must remain in a closed or relaxed shape until just before the extension is required. Likewise the extension should be released as soon as the next note has been sufficiently pinned. Prolonged use of the extended hand shape only serves to tax the hand and cause tension where none is required.

Figure 5: The extension.  
Figure 6: The sideways extension.
4.1.5 The Contraction

The contraction is an extremely useful technique unfortunately largely lost to the modern cellist.

The contraction was in common usage in the early history of the cello but has been largely neglected in the twentieth century. The contraction involves the collection of the fingers within a given position in readiness to replace a higher finger with a lower one or vice versa. The technique, like the extension, is used to avoid shifting when changing position, as figure 7 demonstrates. The contraction occurs in anticipation of the move with the intermediary finger/s lifted. Ironically, although this technique has been largely lost in favour of the shift, the contraction is still very commonly used in the execution of a shift.

Figure 7: The contraction (in three stages)
4.1.6 Speed

Speed requires that the system used entail movements of minimal size and force.

Examples of the ‘system’ may be the left hand in regards to passage work or the distance travelled by the bow in rapid, repeated string crossings. Speed, in regards to passage work, is best achieved by an exaggerated curvature of the fingers and by moving the landing pad slightly closer to the tip of the finger. This allows the fingers to form a smaller unit, which in turn is easier to move. It is also important to remember to maintain the line between the elbow and the second row of knuckles in order to keep the tendons of the hand in a relaxed state and therefore able to move more quickly.

This rationalisation of hand movements should also involve absolutely minimal lifting of fingers. When a finger is lifted from the board it must remain as close as possible to ensure both an accurate and fast delivery on its next strike. Tension can easily seize up the hand and prevent it from moving quickly, so it is therefore important to retain the softness of the palm. Correct use of the angle of the hand will also aid in the production of speed. This is exceptionally important in the case of a trill. The hand should always be weighted to the upper note of the trill and the lower finger remaining pinned. The upper note of the trill should also be pitched slightly sharp as this will compensate for the lack of time it has to be fully depressed by the finger and the resultant lowering of the pitch.
4.1.7 Expression

Each finger should be recognised for its different sound qualities and exploited accordingly.

It is a truism that all the five digits used to play the cello have distinct characteristics and therefore create distinct sounds. The first finger is undoubtedly the strongest whereas the second is often favoured for its expressive qualities as it tends to have the largest landing pad. The third is somewhat weaker and the fourth is not only weaker still but also hindered by its substantial lack of length. The thumb, although strong is rarely expressive due to limitation place on it in terms of position. Utilising different parts of the same finger also adds to the variety of possible tone colours. For rich full sounds the player should aim for a much deeper landing pad. This means that the string is pinned by a softer more fleshy part of the finger. If the string is pinned closer to the tip of the finger between the top of the bone and the board the resultant sound is much harsher but with a more penetrating quality. As fingers' differ in every hand, this area is one that requires much experimentation by the individual player to discover the sound palate uniquely available to them.
4.2 The Thumb

The thumb of the left hand serves a dual purpose, acting as a locator or alternately as the fifth finger.

In the neck positions, or four finger positions\(^{56}\) (as seen in figure 8 cf. p. 21), the thumb rests behind the neck in line with the second finger and acts primarily as a locator. Generally, the thumb should be kept bent, but more important than keeping it bent is to maintain softness in the joint. Because the neck is graduated (becoming slightly wider in higher positions) the thumb continues to be pushed further from the fingers as we move to higher positions, opening up the hand. The muscle memory of this closing and opening of the hand is a key part in the player’s recognition of positions.

This same principle becomes far more obvious as we move into the three-finger positions\(^{57}\) (shown in figure 9 cf. p. 21) in the tenor register of the instrument. In these positions, it is the opening up of the hand linearly, or the stretch between the first finger and the thumb that gives us the distance to certain positions.

As we move up into the thumb positions, (see figure 10 cf. p 21), the thumb is brought to the top of the fingerboard. In this position, it can act as a fret generally pinning two notes on different strings (a fifth apart). It tends to be avoided in particularly


\(^{57}\) The terminology of ‘three finger positions’ was taken from Janos Starker’s method cited below. Starker, *An Organized Method of String Playing*, 7.
expressive passages due to the relative cumbersome nature of the thumb and its difficulty in being manipulated in vibrati.

Figure 8: Four-finger position

Figure 9: Three-finger position

Figure 10: Thumb position

The correct placement of the thumb is on its side, rather than on the pad or tip (as in the case of the fingers). Because the knuckle cannot flex side to side, it creates an extremely strong point from which the fingers can work. This is particularly important as the higher positions of the cello are hampered by greater string tension and higher action. The closer one gets to the bridge, the greater the distance from the strings to the fingerboard, and hence the further the string must be depressed in order to produce a note.
4.3  *Vibrati*

Vibrati should be register-appropriate in regards to both speed and width.

‘Vibrati’ is not a term used commonly by string players. It implies a plural, whereas ‘vibrato’ implies a singularity. The point is that there should never be one generic vibrato\(^{58}\) upon which a player relies, but rather an endless variety of different vibrati to be explored and exploited. The first consideration of the player should be whether or not to vibrate the note: this should not be a given. Following this, due consideration should be given to aspects of musical context and style as the basis of the interpretative decision as to what sort of vibrato to employ on any given note.

In order to produce a vibrato appropriate to the register; the higher the pitch the faster and narrower the vibrato should become and vice versa. This is due to the reduced physical distance between notes as the pitch ascends resulting in a larger interval being encompassed by the rotation of the finger.

A key difficulty in producing a continuous vibrato lies in the transitions from note to note and in the regularity in the vibrato over different fingers and positions. The fingers should briefly play a double stop, (not to suggest the bow should sound the double stop), having both fingers vibrating before the transition to the second note. In this way the vibrato becomes seamless.

---

\(^{58}\) It is also worth noting that a correct vibrato will bend the pitch only flat and then back to the point of the pitch, never sharp. This is due to the fact that the ear will perceive the highest point of the pitch as the note.
A wide vibrato is driven from the elbow and requires a loosening of the pinned finger to allow it to move freely. By opening up the hand the vibrato again becomes wider and slower. The quickening and shortening of a vibrato is aided by the closing in of the fingers of the hand and a tighter hold on the board. When attempting to slow a vibrato it is easier to imagine widening the range of it. When attempting to minimise the range of a vibrato it is easier to imagine speeding up the movement.

5 Right Hand Technique

5.1 The Bow Hold

5.1.1 An Overview of the Bow Hold
The bow hold should remain soft, supple and flexible at all time.

The bow hold is based very simply on a balance of the thumb as a fulcrum and two fingers on either side of it. As can be seen in figure 11 and figure 12, the fingers should be soft and curved, each digit having a part to play. They should also remain in a slightly pronated shape, angled diagonally with the weight resting in the first two fingers.

---

59 For a very nervous and tight sounding vibrato the finger should clamp down on the board. This is one of the rare occasions where tension in the hand will assist the player.

60 The bow hold is often referred to as the bow grip. This term implies a tension that is the opposite of good technique.
Figure 11: The bow hold.

Figure 12: The bow hold, reverse.
5.1.2 The role of the Fingers in the Bow Hold

The first finger rests against the stick of the bow, making contact between the middle and top knuckles. It provides the articulation in the attack of the stroke and is primarily responsible for accents and other aggressive strokes.

The second finger is perhaps the most important digit, being responsible for the production of tone. This finger rests as the first but delivers a more constant weight into the stick thereby producing the tone.

The third generally rests on the ferrule of the bow and making contact with the tip of the finger. This finger provides the vertical balance of the bow. In order to maintain a constant force on the string as the point of contact (of the bow on the strings) moves from the tip to the heel of the bow, the balance of the bow hold must be smoothly and constantly adjusted (compensating for the changes in leverage as the bow-hold travels closer or further from the point of contact with the strings).

The fourth finger rests higher but still on the side of the frog/stick and not on top of it. Another directional finger, its purpose is to steer the bow horizontally to change contact points and therefore control the tone and timbre being produced.

5.1.3 The role of the Thumb in the Bow Hold

The thumb is the fulcrum of the system, the balance against which the other four fingers work. The thumb should rest against both the stick and the frog. By exaggerating the

---

61 The ferrule is the metal part of the frog that keeps the hair of the bow fastened to the frog and can be seen with the third finger resting on it in figure 12.

62 Depending on the individual dimensions of the players hand the fourth finger can rest relatively low on the frog or as high as the stick of the bow.
bend of the thumb the player is able to rotate the bow perpendicular to the string controlling how much hair is able to come into contact with the string, in turn affecting the sound in both quantity and quality.

5.2 Pizzicati

Like vibrati, pizzicati have, lamentably, become a generic technique rather than a palate of possibilities. There is no correct way to pizzicato but rather a world of variety to explore.

Depending on the relative length of the string pinned there will, arguably, be an optimum contact point (as with arco playing) in terms of balancing tonal strength with technical ease. However, the different sounds produced by plucking from slightly different points can add to the palate of possibilities. Closer to the bridge, the tension of the strings is harder, facilitating a stronger pizzicato. Further from the bridge, the string tension is less, requiring less force to pluck (but achieving less strength and volume, and with greater risk of snapping the string against the fingerboard).

Using different fingers to pluck can also create different sounds, as will altering the angle and power of attack. Whilst holding the bow the options are limited to the thumb the first finger, or the second finger. Each will produce a markedly different sound. The thumb typically creates a gentle attack and sonorous sound due to its larger pad. At the other extreme, the first finger tends to produce the most percussive attack.

To avoid the snap of the string against the fingerboard it is important to pull the string parallel to the curve of the fingerboard. When there is opportunity to lay the bow
down, all fingers become options yet the above-mentioned are still favoured. The use of
all four fingers does have its uses, for example in the case of short quadruple stop chords.

‘Left hand pizzicati’ can refer to two different techniques. Firstly, there is the use
of the left-hand fingers to pluck notes as well as pin them in combination with the right
(commonly occurring at rapid tempi). Secondly it can refer to the highly exaggerated left
hand articulation to bring out pizzicati under slurs.

6 Creative Interpretation and Practice Methodology

“The more you question, the more you look, the more you will find.”

Practice is arguable the most important and least taught element in a performer’s
development. *In many ways, the art of practicing is the crux of this handbook.* It is the
practical application of both the philosophical and physical aspects of playing the cello
discussed above.

6.1 To Learn like a Child

In order to practice most effectively the player should mimic the learning of a child.

Young children are incredibly efficient and effective at learning new skills. It is
advisable then that we continue to learn in the same way that we naturally did when we
were young. I wish to posit that there are three aspects to learning like a child: (i)

---

63 Michael Goldschlager as quoted in journals compiled by the author, Western Australia (2004-
2006)
children prefer to practice what they are interested by or drawn to; (ii) children make many repetitions of the smallest aspects of any task before beginning to connect them; and (iii) when they are bored, they swap their attention to something else that interests them rather than constantly pursuing something while bored or irritated by it. I do not mean here to abandon a passage at the first struggle but rather to avoid continuing beyond the point when the mind is so frustrated that it has lost focus. By adhering to these three principles our own learning as adults becomes infinitely more productive.

6.2 A Four-Step Process for the Creative Application of Technique

6.2.1 The Artist

The musical interpretation must come first.

Based on the philosophy of music and performance established above it is the needs of the music that will determine the technique to be employed. It follows, then, that researching the work in question will be the first step in a performer's learning process. From here the player is able to use his/her own imagination and experience to begin to conceptualise their work of art. Once the player has developed an informed interpretation, he/she can then move on to selecting, discovering and designing the techniques required to achieve this.
6.2.2 The Architect

The player must design the machine that will best produce the desired sound.

The architect comes in at the design stage once the concept is established. The architect uses all the technical knowledge available, from the experience of the player, all the surrounding resources, and their imagination. The architect considers all the information available and begins to work out possible solutions, possible hypotheses, and experiments to test them. Once the solution or appropriate tool has been found it passes to the builder to create and solidify this technique.

6.2.3 The builder

Repetition is the key.

It is this stage of development that we relate to learning like a child. Small aspects of the technique are slowly built and then repeated. As Goldschlager insists, “repetition is the key to learning, repetition is the key, repetition is the key... you will remember this because I have said it three times.”\textsuperscript{64}

\textsuperscript{64} Michael Goldschlager as quoted in journals compiled by the author, Western Australia (2004-2006)
6.2.4 The Observer

Impartiality when accessing the results of the previous steps is far more effective than emotional judgements.

Another aspect of a child's learning is that they do not judge themselves when they make an error. As adults, we have a terrible tendency to confuse the terms 'wrong' and 'bad'. An incorrect note should not come with a moral judgment. The player must, of course, take in and evaluate the information being received, but in a non-emotional manner.

6.3 A Comparison of Practice Methods

The keys to the method of practice advocated here are the principles discussed in the preface. There are of course other practice plans and methodologies supported by various cellists that contain many interesting and informed ideas. One of particular note is the "practice flow chart" developed by Robert Jesselson. Many aspect of this chart are incredibly useful in the practice room. On the other hand, I believe his methodology contains some fundamental flaws, ones that can actually be detrimental to musicianship.

The flow chart begins with the instruction to play the work through to gain an overall idea of how it goes. In the teachings of Goldschlager, by contradistinction, the

---

65 Robert Jesselson, American cellist and professor of cello at University of South Carolina. Published pedagogue and member of the American Arts trio.
first steps are done without the cello. A piece must be researched, the score studied, and then the work played on a piano so that musical decisions can be make without the hindrance technical issues. Only then should the cello be removed from its case.

A further difference is that Jesselson supports the immediate inclusion of a set of fingerings and bowings, whereas Goldschlager supports listing options of different fingerings and bowings that should be under constant review as to which will yield the best musical result.

The method of practicing difficult passages in Jesselson’s work is very similar to the approach of Goldschlager also. Both advocate the importance of the student’s imagination in this part of the process.

It is only at the end of his chart that Jesselson suggests the decisions of tempo and musical aspects be made. Goldschlager’s approach is decidedly the opposite. If we accept that different dynamics, phrasing and tempi will require different techniques, then to make these pivotal decisions at the end of the process will often result in the necessity of relearning a passage (with modified fingerings or bowings and other technical discrepancies). It is therefore much more economical to have these goals in mind from the very beginning. Goldschlager’s approach aims to discover the ideal bowing or fingering choice for a given passage, whereas Jesselson’s method often results in attempts to adapt a generic fingering for a musical result to which it is not suited.
7 Conclusion

It is the attention to musical consideration from the very outset and at every stage of development that I feel makes this method superior. It is, after all, the essence of what we are trying to achieve. The humility required of the musician to lay down their personal desires in favour of what the music needs, is in fact, a noble and dignified act. But rather than obviating imagination, this process actually demands great imagination and creativity. Furthermore, in its striving for the ideal technical solution to any musical dilemma, this process has the potential to extend the boundaries of conventional technique to reach new musical heights. In this way we will continue the charge towards an ever moving horizon as the greats of our past have always done.
8 Bibliography


Profiles cellist Lluis Claret, who divides his time between teaching and performing and has dedicated himself to improving the standards of teaching the instrument in Spain. Explains that musical education in Spain suffered in the country during the years of the Franco dictatorship, with the result being that many Spanish orchestras are staffed with foreigners. Discusses Claret's founding of a music academy in Barcelona and his appreciation for the teaching ability of cellist Bernard Greenhouse, a former pupil of Casals. Also notes Claret's interest in modern cellos by contemporary instrument makers.


On Sep 22, 1998, the cellist Bernard Greenhouse took his prized possession, a Stradivarius cello, to Rene Morel to be restored. Delbanco describes the ensuing events.

Presents an interview with cellist David Finckel of the Emerson String Quartet, which gives more than 100 concerts a year worldwide and is constantly adding to its already substantial discography. Notes that Finckel also plays solo recitals and concertos with orchestras, and he and his wife, pianist Wu Han, are partners in a sonata duo as well as in ArtistLed, a record company they established together. Informs that the couple also served as artistic directors for California's SummerFest La Jolla until after the 2000 season. Discusses the interaction and balance between the different components of Finckel's multifaceted career, his work with his wife, his relationship with teacher Rostropovich, and his music family.


Reviews two instructional video recordings (Crescent Software, Inc.) in which cellist Bernard Greenhouse features two students at a time performing complete movements of advanced works. Greenhouse provides criticism and offers advice on performance and practice. Recommends these tapes as valuable to all cellists.

Goldschlager, Michael. Interview by author, 16 June 2006, Western Australia. Email.


Provides a flow chart describing the proper method of practicing for string players. Discusses how students can use the chart to improve their practice skills and enhance their musical ability.


The World Cello Congress II was held in St. Petersburg, Russia, July 1-7, 1997. The event was, in part, to celebrate the 70th birthday of cellist Mstislav Rostropovich. Highlights of the 16 concerts presented during the week are offered.


This production will be of particular interest to cellists, though musicians in general may find it helpful. It is a record of six master classes where cellists in their early 20s were coached by 90-year-old Greenhouse in London in February, 2005. No complete performances are heard, but we are led through portions of three of the Bach suites, as well as the Schumann Concerto, Bloch's Schelomo, and an amazing 40-minute session on the opening of Beethoven's G-minor Sonata.


Cellist Selma Gokcen is profiled. An American of Turkish parentage, Gokcen was educated at the Geneva Conservatory of Music and the Julliard School. Gokcen is also an accomplished chamber musician and teaches at the Guildhall School of Music and Drama in London, where she currently resides. Gokcen will perform "Pablo Casals - Artist of Conscience" - an homage to the great cellist and humanitarian - with narrator Jonathan C. Kramer at the 92nd Street Y's Kaufmann Concert Hall in New York City on October 9, 2004. The program will include performances by Ms Gokcen of three of Bach's Suites for Solo Cello.

Cellist Amit Peled is profiled. He grew up in an agricultural area of Israel in a non-musical family. Peled knew early on that his career would probably lie outside Israel, and his parents allowed him to make his own decisions about his future. Peled studied in Germany for four years. He became a cello professor at the Peabody Conservatory of Music, one of the youngest music professors in the US at the time.


Provides a biographical profile of American cellist Bernard Greenhouse describing how he first decided to play the cello after hearing recordings by his "idol" Pablo Casals. Recounts Greenhouse's attendance at the Studio 8H live performances of the NBC Symphony Orchestra with Arturo Toscanini conducting. Also describes his studies with both Emanuel Feuermann and Pablo Casals.


Cellist Bernard Greenhouse discusses his bowing technique for the cello. He uses the strength of the back as the basic part of the body that produces the ease of motion in both the bow arm and the left hand. The primary movement of the bow does not come from the shoulder, but from the torso. Photographs are included.


Reviews a book that includes autobiographical sketches based on taped interviews with cellist Bernard Greenhouse (Kronberg Academy Verlag, £18.95). Comments that much of what Greenhouse has to say will fascinate cellists and those interested in the history of performance - especially cello playing - in the 20th century.


Interviews cello teacher Janos Starker on cello teaching in the 20th century. Discusses the rise of the instrument's popularity over the course of the century. Examines the differences between coaching and teaching, noting that beyond teaching the fundamentals of technique, coaching has little value.


A book that recounts the checkered history of a celebrated cello by Antonio Stradivari and its role in the life of its current owner, Bernard Greenhouse, cellist of the Beaux Arts Trio, is reviewed (Verso, 2001).


Bernard Greenhouse has won a reputation as one of the major interpreters of his instrument as a soloist, a former cellist of the Bach Aria Group, and a 32-year founding member of the Beaux Arts Trio. His impeccable artistry, combined with a sound that is at once noble and achingly human, has touched audiences around the world for over 60 years, and had a profound effect on generations of cellists.


