

Table of Contents

Testimonials.....	6
Abbreviations and Frequently Used Phrases.....	14
Preface.....	16
CHAPTER ONE: PIANO TECHNIQUE	24
I. INTRODUCTION	24
1. Objective.....	24
2. What is Piano Technique?.....	25
3. Technique, Music, Mental Play	26
4. Basic Approach, Interpretation, Musical Training, Absolute Pitch	26
II. BASIC PROCEDURES FOR PIANO PRACTICE	28
1. The Practice Routine.....	28
2. Finger Positions.....	29
3. Bench Height and Distance from Piano	30
4. Starting a Piece: Listening and Analysis (Für Elise).....	30
5. Practice the Difficult Sections First	31
6. Shortening Difficult Passages: Segmental (Bar-by-Bar) Practice.....	31
7. Hands Separate Practice: Acquiring Technique.....	31
8. Continuity Rule.....	32
9. Chord Attack.....	33
10. Gravity Drop, Chord Practice, and Relaxation.....	33
11. Parallel Sets	35
12. Learning, Memorizing, and Mental Play.....	36
13. Velocity, Choice of Practice Speed.....	38
14. How to Relax.....	39
15. Post Practice Improvement (PPI)	41
16. Dangers of Slow Play - Pitfalls of the Intuitive Method	42
17. Importance of Slow Play	43
18. Fingering	44
19. Accurate Tempo and the Metronome.....	45
20. Weak Left Hand; Using One Hand to Teach the Other.....	46
21. Building Endurance, Breathing	47
22. Bad Habits: A Pianist's Worst Enemy.....	49
23. Damper Pedal.....	51
24. Soft Pedal: Hammer Voicing, Physics of the Piano Sound.....	52
25. Hands Together and Mental Play	55
Beethoven's Moonlight, 1st Movement, Op. 27, No. 2	56
Mozart's Rondo Alla Turca, from Sonata K300 (K331).	59
Chopin's Fantaisie-Impromptu, Op. 66, Fast Play Degradation (FPD).....	61
26. Summary	64
III. SELECTED TOPICS IN PIANO PRACTICE	64
1. Tone, Rhythm, Legato, staccato.....	64
a. What is "Good Tone"?	
The Basic keystroke.	64
Tone: Single versus Multiple Notes, Pianissimo, Fortissimo.	65
b. What is Rhythm? (Beethoven's Tempest, Op. 31, #2, Appassionata, Op. 57)	69
c. Legato, Staccato	71
2. Cycling (Chopin's Fantaisie Impromptu).....	72
3. Trills & Tremolos	76
a. Trills	76
b. Tremolos (Beethoven's Pathétique, 1st Movement).....	77

4. Hand, Finger, Body Motions for Technique.....	79
a. Hand Motions (Pronation, Supination, Thrust, Pull, Claw, Throw, Flick, Wrist).....	79
b. Playing with Flat Fingers (FFP, Spider, Pyramid Positions).....	80
c. Body Motions	88
5. Playing Fast: Scales, Arpeggios, and Chromatic Scales.....	89
a. Scales: Thumb Under, Thumb Over (TU, TO).....	89
b. The TO Motion, Explanation and Video	91
c. Practicing TO: Speed, Glissando Motion	92
d. Scales: Origin, Nomenclature and Fingerings	96
e. Arpeggios (Chopin's Fantaisie Impromptu, Cartwheel Motion, Finger Splits)	98
f. Thrust and Pull, Beethoven's Moonlight, 3rd Movement.....	100
g. Thumb: the Most Versatile Finger.....	103
h. Fast Chromatic Scales.....	103
6. Memorizing	104
a. Why Memorize?	104
b. Who can, What to, and When to, Memorize.	106
c. Memorizing and Maintenance	106
d. Hand Memory	107
e. Starting the Memorizing Process.....	107
f. Reinforcing the Memory.....	108
g. Practicing Cold	109
h. Slow Play.....	109
i. Mental Timing	110
j. Establishing Permanent Memory, Mental Play	110
Music memory.....	111
Photographic memory.....	111
Keyboard memory and mental play.....	112
Theoretical memory.....	114
k. Maintenance.....	114
l. Sight Readers versus Memorizers.....	115
Bach's 2-part Inventions: #1, #8, and #13.	116
Quiet hands.....	120
Sinfonia #15.....	121
m. Human Memory Function; Music = Memory Algorithm	122
n. How to Become a Good Memorizer	124
o. Summary.....	125
7. Exercises.....	126
a. Introduction: Intrinsic, Limbering, and Conditioning Exercises	126
Fast vs. Slow Muscles	127
b. Parallel Set Exercises for Intrinsic Technical Development.....	128
c. How To Use The Parallel Set Exercises (Beethoven's Appassionata, 3rd Movement)	134
d. Scales, Arpeggios, Finger Independence and Finger Lifting Exercises	135
e. Playing (Wide) Chords, Finger/Palm Spreading Exercises	136
f. Practicing Jumps.....	138
g. Stretching and Other Exercises.....	139
h. Problems with Hanon Exercises	139
i. Practicing for Speed	142
Speed Stroke, Relaxation.....	142
Other Speed Methods	143
Speed Walls	143
8. Outlining (Beethoven's Sonata #1).....	145
9. Polishing a Piece - Eliminating Flubs.....	146
10. Cold Hands, Slippery (Dry/Sweaty) Fingers, Illness, Hand Injury (Carpal Tunnel), Ear Damage (Tinnitus).....	147

11. Sight Reading.....	153
12. Learning Relative Pitch and Absolute Pitch (Sight Singing, Composing)	155
13. Video Recording and Audio Recording Your Own Playing.....	159
14. Preparing for Performances and Recitals.....	160
a. Benefits and Pitfalls of Performances/Recitals.	160
b. Basics of Flawless Performances.	161
c. Practicing for Performances.	161
d. Practicing Musically.	162
e. Casual Performances.	163
f. Performance Preparation Routines.	164
g. During the Recital.	166
h. That Unfamiliar Piano.....	166
i. After the Recital.	167
15. Origin and Control of Nervousness.....	167
16. Teaching.....	170
a. Types of Teachers.	170
b. Teaching Youngsters, Parental Involvement, Mental Play, Absolute Pitch.	170
How to teach your child.	172
c. Memorizing, Reading, Theory.	174
d. Some Elements of Piano Lessons and performance skills.	175
e. Why the Greatest Pianists Could Not Teach.	178
17. Upright, Grand & Electronic Pianos; Purchasing and Care	179
a. Grand, Upright, or Electronic?.....	179
b. Electronic Pianos.....	180
c. Uprights.....	183
d. Grands.	183
e. Purchasing an Acoustic Piano.	184
f. Piano Care.....	185
18. How to Start Learning Piano: Youngest Children to Old Adults.....	187
a. Do You Need a Teacher?.....	187
b. Starter Books and Keyboards.....	188
c. Beginners: Age 0 to 65+.....	188
19. The “Ideal” Practice Routine (Bach’s Teachings and Invention #4)	191
a. Learning the Rules.	191
b. Routine for Learning a New Piece.....	191
c. “Normal” Practice Routines and Bach’s Teachings.....	191
20. Bach: the Greatest Composer and Teacher (15 Inventions and their Parallel Sets).....	197
21. The Psychology of Piano	199
22. Summary of Method	201
IV. MUSIC, MATHEMATICS, AND RESEARCH.....	202
1. Can We All Be Mozarts?	202
2. Scientific Approach to Piano Practice.....	203
a. The Scientific Method.....	203
b. Principles of Learning.....	204
3. Why Is Intuition So Often Wrong?	206
4. Mozart’s Formula, Beethoven and Group Theory.....	206
Mozart (Eine Kleine Nachtmusik, Sonata K300).....	206
Beethoven (5th Symphony, Appassionata, Waldstein).....	209
5. Learning Rate Calculation (1000 Times Faster!).....	212
6. Future Research Topics.....	215
a. Momentum Theory of Piano Playing.	215
b. The Physiology of Technique.	215
c. Brain Research, Using the Subconscious.....	215

d. The Future of Piano	217
e. The Future of Education.....	219
V. JAZZ, FAKE BOOKS, AND IMPROVISATION.....	220
CHAPTER TWO: TUNING YOUR PIANO	222
1. Introduction	222
2. Chromatic Scale and Temperament.....	223
a. Mathematics of the Chromatic Scale and Intervals	223
b. Temperament, Music, and the Circle of Fifths.....	225
c. Pythagorean, Equal, Meantone, and “Well” Temperaments.....	226
3. Tuning Tools	228
4. Preparation.....	228
5. Getting Started.....	228
a. Engaging and Manipulating the Tuning Lever.....	229
b. Setting the Pin.....	230
c. Tuning Unisons.....	230
d. Sympathetic Vibrations.....	232
e. Making that Final Infinitesimal Motion.....	232
f. Equalizing String Tension.....	233
g. Rocking It in the Treble.....	233
h. Rumblyings in the Bass.....	233
i. Harmonic Tuning.....	234
j. What is Stretch?.....	234
k. Precision, Precision, Precision.....	234
6. Tuning Procedures and Temperament.....	235
a. Tuning the Piano to the Tuning Fork.....	235
b. Kirnberger II.....	236
c. Equal Temperament.....	236
7. Making Minor Repairs (Voicing and Polishing the Capstans).....	237
a. Hammer Voicing.....	237
b. Polishing the Capstans.....	239
REFERENCES	239
Book/Video Reviews.....	241
Reviewed Books: Classical Music	241
General Conclusions from the Reviewed Books.....	241
List of MUST READ Books & MUST VIEW Videos.....	242
Reviewed Books: Jazz, Fake Books and Improvisation.....	253
Reviewed Videos.....	254
Web Sites, Books, Videos	254
General	254
Sites with Free Sheet Music and Other Goodies	254
Piano Instruction (Classical), Teachers, Schools.....	254
Books Not Referenced Above, by title.....	255
<i>Piano Technology, Tuning, Parts, Manufacturers</i>	256
<i>Injury from Piano Practice</i>	256
<i>Jazz, Chords, Theory, Instruction (Popular Music)</i>	256
<i>Sheet Music, Video, CD, Book, Stores</i>	257
Notes for Translators:.....	257
ABOUT THE AUTHOR.....	258
List of Tables, Equations, and Videos.....	258
Index.....	258