Focal Dystonia Therapy with Patrick O'Brien

By Jack Silver

OVERVIEW AND LESSON 1

My Particular Focal Dystonia

In May 1989 I rang the doorbell of Pat O'Brien's apartment in New York. I had heard of his work with guitarists having hand problems from a seminar he had given at one of the International Guitar Festivals in Toronto. My particular problem was simple to describe but baffling to understand. When I played free stroke, the tip joint of my middle finger involuntarily extended. There was no pain. For some reason, after 20 years of playing the classical guitar, my middle finger no longer worked properly. This made it impossible to perform arpeggios or scales. I had been working around the problem by using my thumb, index, and ring fingers exclusively, excluding the middle finger. This was not a solution, of course. I had come to Pat hoping he could help me overcome this impairment. I had two long lessons with Pat in May and in August. This was followed up by several telephone discussions. I was overjoyed when, after months of very slow, careful work using Pat's suggestions, the dystonia began to abate. By October 1990, at slow tempi, there were no signs of the involuntary extension of my middle finger. My progress continued, and by 1991 I could resume learning and performing repertoire. This article will detail what I believe led to the development of the dystonia, the contents of Pat's teaching to me, and the course of my practice, based on his suggestions, to cure this perplexing condition.

Causes

> 1) When I began to play the guitar in September 1966, I was self-taught and had no inkling of the proper way of using my hands. I had never seen a classical guitarist perform, and my initial efforts were purely instinctive. The only guideline I had was Aaron Shearer's guitar method. Despite my ignorance, I developed a measure of facility, but I had no understanding of what I was doing. I believe that this lack of knowledge set the stage for my later difficulties.

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2) I first had lessons in September 1968. My teacher focused only on repertoire and never spoke about how to move my hands correctly.

3) In July 1970 I attended the Jeunesses Musicales music camp at Mt. Orford in Quebec, presided over by Alexandre Lagoya. There, under the tutelage of his assistant, Paul-André Gagnon, I was introduced to the concept of the "attaque à droite." This involved turning the right hand wrist sharply to the right and playing off the right-hand side of the nails. It was uncomfortable at first, but I got used to it. I was advised to keep a fairly arched right-hand wrist, to keep the fingers laterally compressed, with overlapping fingers, and to keep the fingertips firm. There were two consequences. First, I developed a full, round tone. Second, however, my facility in executing arpeggios and scales declined. I was told that this was temporary and that the speed would return with sufficient practice using the new method. Unfortunately, this never happened. I continued to use this approach until 1976, when I changed to a straight wrist approach. During this period I studied with students of Presti and Lagoya, the duo of Ako Ito and Henri Dorigny, and gained a Premier Prix d'Interprétation in 1972 from the Conservatoire National de la Région de Nice. It had become clear that many guitarists using Lagoya's approach were developing severe hand problems, ending promising careers. Most abandoned his methods. I consider my involvement with this faulty approach to the right hand to be the origin of my later dystonia.

4) Between 1976 and 1982 I practiced and played very little, as I was in a full-time nonmusical university graduate program. However, in 1982 I returned actively to the guitar. My practice regimen increased to around four hours a day as I worked on technique and repertoire. I continued to have no understanding of the actual mechanisms involved with right-hand technique. I consider this sudden shift from hardly any practice to an intensive routine to mark the beginning of the emergence of the dystonia.

5) I began to study regularly in 1983 with a concert guitarist in New York who suggested I arch my right-hand wrist even more. I did so. This, in my judgment, was a contributing factor in the development of my right-hand problem. To give an idea of the difficulty of the repertoire I was studying, I was working on technically ambitious repertoire, including the Villa-Lobos études and Bach's Prelude, Fugue, and Allegro, BWV 998.

6) The focal dystonia developed incrementally. It began in 1985 as sluggishness in the return phase of free strokes with the right-hand middle finger. This phenomenon subsided in the course of practice sessions. However, by 1988 the dystonia was in full force. I had applied for a competition sponsored by the Royal Conservatory of Music in Toronto that paid winners a stipend for giving recitals in a variety of venues for a year. I was able to reach the final round. Unfortunately, the dystonia was so pronounced that I refingered my entire repertoire to use only thumb, index, and ring finger, excluding the middle finger entirely.

7) I finally faced the fact that something had gone seriously awry in my right-hand technique. After the competition I began to work with a guitarist in Toronto who had been a student of Pepe Romero. I was hoping he would have some insight into the source of my difficulties. Unfortunately, although he tried to help, none of his suggestions had any effect. In April 1989 I had a private lesson with Bill Kanengiser, who provided the first concrete observation, amplified the following month when I went to Pat O'Brien. Bill observed that "When your middle finger is returning, even at slow tempi, you are doing so in a tense way, you're pulling it back, you're not allowing it just to return by virtue of its being relaxed. There's a tension throughout the entire range of the stroke." It was Pat who explained why this was happening and pointed the way to a solution.

Pat's Analysis of My Problem

The first thing Pat told me was this: "Ninety-nine percent of the time, when anyone has a problem like the one you describe, a thing called 'deep flexor tension' is involved." He explained that there were three classes of flexors.

The lumbricals, located in the palm of the hand, bend the metacarpal phalangeal joint, the knuckle joint. There are four of these. He pointed out that "This is the primary flexion system with which you should be playing."

The flexor digitorum superficialis muscles bend the middle joints of the fingers. These muscles are located in the forearm. "You can engage them independently," Pat noted.

Finally, there are the "flexor digitorum profundus" muscles. These, he told me, are the problematic flexors: "Where it comes to a head, the four tendons that go out to the fingers are attached very close together,

in a gristly mass. It's not possible to pull one tendon without affecting the others. . . . If you tighten any fingertip, the others will want to go along. The problem is that we try to fight it using the extensors. The only way to keep the adjoining fingers from moving is by not using the flexor digitorum profundus muscles. Whenever you have overuse of the deep flexors, you run into the kinds of problems you have."

Observing my playing, Pat commented, "Once you begin fighting between one finger and another, for example, tightening the tip of *i*, finding *m* wants to follow, you try, therefore, to stop *m* from following by triggering the extensor opposite it to hold it out. Usually what happens is that the *m* extensor learns a peculiar pattern of turning itself on at odd times. It has to work against the tendency of *m* to want to follow *i* or *a* inward, or both. Sometimes it gets so bad it pulls the *m* finger out involuntarily. Basically you taught it to turn on all the time to hold the finger still and it has learned that lesson too well. It would rather at times prefer to hold the finger out there than have to pull it out even two millimeters."

He concluded, "There has to be a way to leave the finger relaxed, so it doesn't go in with the other finger without having to hold it out. You can do tremendous damage to the extensor of the middle finger." He explained that the purpose of botulinum toxin therapy was to paralyze the involuntary movement of a finger, like the *m* in my case. It was a case of treating the symptom and not the cause.

"This dystonia is always preceded by deep flexor tension and by prolonged effort to hold other fingers still. Most of what I do to train people to get out of this problem—which they can do if they haven't overdone it—is through gentle stuff to work yourself out of it."

Contributing Factors to this Problem

Pat went on to explain to me why he considered this problem had become so common among guitarists. He pointed to the modern abandonment of the rest stroke as a factor. In a rest stroke, the tip joint relaxes naturally and the deep flexors turn off. The fingers operate independently and the follow-through is small. The problem arises when one plays with tip tension in a free stroke with a big follow-through.

The evolution of modern guitars—bigger, heavier, with high-tension strings—was another element. These guitars need to be played with tension and strain. Older guitars were smaller, brighter, requiring finesse, not power.

He returned to the matter of the elimination of rest strokes as the "greatest disaster" for the right-hand thumb. He joked that Aaron Shearer's

students "fall by the wayside in droves. They keep me in business forever." Pat advocated the use of lots of rest strokes in the bass. "It moves your hand out over the strings; your knuckles move towards the treble, from which position you can play a treble free stroke, relax the tips of your fingers, and not hit the next string."

He cautioned that the absolute avoidance of firmness in the fingertips was not essential when everything was working well. "It is possible to hold the tip firm in some situations. I have to be absolutely vigilant that people let go completely all the time. I have to be absolutely sure they've turned that system off, the deep flexors. I have to start with everything relaxing."

He advocated that we begin our daily practice with lots of rest strokes, one finger at a time, to gain the sensation of relaxing the deep flexors and activating the lumbricals.

He pointed out that the degree of extension of our fingertips varies not only among players, but even in the fingers of an individual's right hand. "Some people go in a couple of degrees; some people don't go in at all. When you ask players to let go of their fingertips, they'll tell you their fingers won't go back that way. I'll say, 'The point is not that your finger won't go back, the point is that it doesn't go forward.'"

Preliminary Advice

I've mentioned Pat's suggestion that we use lots of rest strokes in warming up and in playing. It allows the tips to relax and extend naturally. But we can't use rest strokes all the time, so we have to position the fingers in free strokes in such a way that the tips are encouraged to relax.

"When you play a free stroke, most people can't get it to relax at the tip. I have a huge number of different exercises that will make them do it. But roughly, if you get your knuckles way out over the trebles, maybe even further out over them, there's a point, when you're coming down with your fingers, when they reach the bottom and start to rise away from the top. If I set my hand so that when I'm playing a free stroke on the rising part of the arc of the finger, then I don't have to tighten my tip to clear the next string."

He proceeded to give me a simple exercise to achieve this. He put his *p* on the 1st string and then played free strokes with the fingers, individually, on the 2nd and 3rd strings. "You see, I'm reaching into the trebles way under my palm and playing a free stroke with my tips absolutely relaxed. My other fingers have a chance to stay still because I don't use the deep flexor at all."

He then gave me another exercise that involved strumming of

individual fingers. He demonstrated by strumming his index finger over the strings from the 1st to the 6th. "This teaches you how to turn on your simplest and best flexor motion, which is really only the knuckle and middle joint." Then he extended the finger in a strum from the 6th back to the 1st, a one finger rasgueado using the back of the nail. "It gives you the sense that the flexor motion and the extensor motion are mutually exclusive, that they never happen together."

Pat emphasized that the use of the deep flexors can occur at any point in the stroke: "sometimes it's when you get to the string, sometimes when it's on the string, and sometimes it's even after you pluck on your clearance on the way back up. You're afraid it's going to hit on the way back, so you pull the tip joint out. You might not be able to hear this tension; it might not be in an audible part of the stroke: it could be in the release."

Alternation and the So-called Exchange

This was a very important topic, and I will quote Pat verbatim.

"There's another trick in modern teaching which has a major problem. Working on scales a lot, there's a tendency for people to tell you that you should get two fingers to cross each other like a scissor. You see, when you play fast, it looks like that. But what you're doing when you play very fast is you're playing each finger and then you're relaxing it as soon as you can. It so happens that you're relaxing it and the other finger is coming in at the same time. So it looks like they pass each other. That's what a high-speed picture looks like. Put that down in slow motion. But what would happen if you actually did that in slow motion is this: you'd play a note and relax. You'd play the next note and relax, and so on."

The erroneous "default setting" for free stroke alternation is to pluck a note and then hold on until the next finger comes in, even if, say, it's five minutes later. That means that over the course of five minutes of playing, if there is a five-minute-long note, you're under tension rather than at rest the whole time.

"The classic thing you will see with people who are taught to drill those scales endlessly is this: they will play a melody, alternating, and after playing with a finger hold it in tension. If the note is, say, three measures long, they're still holding. So they never actually relax."

Strong and Weak Accents

"An odd thing that happens on the lute and still happens in 19th-century guitar is this. If you play a certain kind of a rhythm, you play

strong-strong-weak in terms of your fingers, as you do on the lute. You see this all the time in 19th-century books. That is, you see a long note with a strong finger and then strong-weak for those last two notes." Pat illustrated by writing a quarter note followed by two eighth notes: he played the quarter note with *m*, and the eighth notes *mi*. In other words, he did not alternate strictly. "This approach presupposes that you automatically, in default, just let the *m* finger go. It always falls loose. We teach ourselves a system which doesn't permit ourselves to release. So if we are trying to hold that tension in the tips, not only are we holding the tension, which we don't necessarily want to do, but we're holding it all the time.

"I teach people to begin with a relaxation of the tip. And if they want to play slow scales rest stroke, the fail-safe stroke, I simply have them let go after every stroke. This means that they'll sometimes play *m* (1/4), *mi* (1/8), *m* (1/4). During the pause the finger relaxes, and they can do that again rather than *m* (1/4), *im* (1/8), *i* (1/4). The first gives you an authentic accent pattern relating to the lengths of your fingers—*m* being longer than *i*; the second gives you no authentic accent pattern. The technique of crossing the fingers the wrong way—playing the weak finger on the strong beat and the strong finger on the weak beat—is a very recent idea in music history and probably a very bad idea. The longer lever is *m*, the strong finger."

String Vibration

Pat observed that the top of a guitar vibrates up and down, like a drum. The object of a vibrating string is also to move up and down. The string should be pressed downward so that it pops up. It shouldn't be pulled side to side. "We're trying to store energy in the string just before the stroke, pushing it straight down. That's what a rest stroke does so well. If I loosen the tip and do a free stroke, I can still sort of do the same thing. It still uses most of its energy downward and doesn't pull it sideways. Pressing downwards is the key. And then whatever finger is longer is going to push it down even more."

Four Crucially Important Exercises

Exercise 1: Simple rest strokes, each finger individually. The finger is relaxed in the air, just in front of the string. You bring the finger to the string, press downward. The tip joint bends back (to a greater or lesser degree depending on your natural anatomy). You release and the finger comes to rest on the next string, tip still bent back. You lift from the

knuckle joint and the finger bounces back to its starting point. The action of the bent tip returning to a neutral position facilitates the return. Do this on various strings, observing the four phases of the stroke.

Exercise 2: "Place the thumb on 1st string and play the inner strings underneath the hand. Try to touch the very tip of your finger all the way as deep as you can to the heel of your hand. That's what a good stroke should look like. Certainly that's what it looks like when you strum. If you close your hand with all your fingers, you'll realize your string has got to be at the bottom further in so that you can rise and play a free stroke. What you need now is to turn them all off. Anyway, that's the motion—just touch the heel of your hand. You should be loose enough to get them all the way down there. You have recorded these for posterity—the sound of one hand clapping. To be more precise, after you put the thumb on the 1st string, place the index on the 3rd and pluck a totally tip-loose free stroke. Imagine, as you follow through, your goal is to get to the heel of the hand. And then let go. Slowly, watch the middle finger be totally loose. A rule in checking these things is don't watch the finger actually playing. Watch the adjacent finger. Give yourself a couple of seconds back at rest after the finger returns. You're trying to train a new neurological system. You're trying to train yourself to think differently to your fingers. The index only plays. You leave the middle completely relaxed, you leave the tip completely relaxed. The index follows through to the heel of the hand, real slow, and then you let it go all the way back out. Real slow, a pantomime of a stroke. There doesn't need to be a sound. You just need to know the muscles are engaging independently."

Exercise 3: Start by strumming in both directions with one finger, each individual finger a number of times. "When you strum like this and warm up for a minute or two this way, your body is going to feed blood to the lumbrical muscles and then to the flexor digitorum superficialis and then to the extensors, but not to the deep flexors. This means that if you start playing this way, the deep flexors are not warmed up and they're not going to be used. Subliminally, you won't want to use them. You'll think, 'That's not what I want to pull with, that's not ready.' One of the reasons flamenco guys can play fast is they strum a lot. It's very healthy for you, particularly, once you've plucked a note, you stop flexing as soon as the string escapes from you. The follow-through will happen automatically because you can only let go the tension in the muscles. It will fall in a certain distance depending on how much force you put into it. And as you stop, you relax. Gravity pulls this finger back up and also the extensors pull it back out, but they pull it back and passively. When you pull in, the extensors distend. When you stop pulling in, the extensors just

collapse on themselves. That means you can add to the recovery speed by having done a little bit of rasgueado, so that your extensors are in decent shape. Most of us have our extensors gradually atrophy because we don't use them. Or we use them in a tight, hard pattern of trying to hold fingers out that want to follow other fingers. You can heal some of the abuse of your extensors with real simply elemental, normal guitar motion."

Exercise 4: Try one finger at a time, and not continuous rolls. "Start with the fingers placed all the way to the heel of the hand. Do not clench them—that would involve the tips and thus the deep flexors. Don't curl them up. Then, rapidly extend the little finger across the strings, followed by the ring finger, the middle finger, and the index finger. Avoid continuous rolls because there's a habit people have in them to tighten up on the way back in, not realizing they are doing this."

A Digression on Nail Shaping

"You will see that what you need to do sometimes is shape your nail so that you get a broad surface on the string just before you relax with this angle. Your finger shouldn't hang up on the string, so you have to tighten up to get past it. One of the nice things about the guitar is that you can reshape the nail and make a good sound from whatever kind of usage the fingers really need. Most of us inherit an arbitrary nail shape and do anything to our fingers to get a good sound."

Working with the *a* Finger

This is a refinement on the second exercise, focusing on the ring finger.

"Place *p* on the 1st string. Try *a* slowly on the 3rd string. Hold it with its tip completely relaxed for a split second on the string. Be sure *m* is loose while you're doing this. Now, try this soft, slow pantomime stroke all the way to the heel of your hand and let go. There is a point at the very end of the stroke where this finger will pull because this skin pulls under here. Where you would be in trouble, for example, would be if this finger started to pull when you were still halfway through the stroke. So there's a point where that moves a little bit, there is none of that reflexive jerking we were talking about that people get. Most people can learn to do this. Make sure to concentrate also on coming in slowly, holding the finger a second on the string to check it, and let go and let it just plop like a dead fish. Get it close to the palm. Consciously will the *a* to go slowly. If you start to flex another finger in tandem with the *a*, I

want you to catch it in the middle of the stroke and turn it off. I want you to be able to control the speed of your stroke. The slower you stroke a string, the longer the tone sustains."

Working with the *m* Finger

"Now try the *m* finger. That's usually for most people the tricky one. See if you can get it to the string. Let the tip go completely. Hold it ready and then all the way to the heel as slow and soft as you can and let go. Now I could monitor if you're tightening up because the other finger would follow. But you're really good at holding the other finger away from following, so it's hard for me to tell. Only you know what you've done there. So, I want you not to tighten the tip of *m* and I want the other fingers just to stay loose. But you've got to let them follow. And then you're going to have to learn a new way to turn that off, not by holding yourself still. You don't repress that motion. You do something that doesn't cause it in the first place.

"So, gently pluck up slowly to the heel of your hand and let go. That's pretty good. As you play, they do tend to follow a little bit. [As I pluck *m*, *i* and *a* tend to follow.] See how far you can get—come off the instrument sometimes and think about this. Slowly move that finger and just try to touch the heel of the hand with *m*. And see how far you can get. There's a point where the other fingers have to follow it. If at any point the tip isn't loose, that's a problem. I could hold your tip hyperextended and I know that discourages your tightening of the flexor digitorum profundus. You can actually monitor it from the next finger."

Three More Exercises

Exercise 5: "Try this. Hold the tip joints of *i* and *a* hyperextended on the 1st string. Then begin a gentle, slow attempt to touch the heel of your hand with *m*. Great. That inhibits you from tightening the FDP. You could still tighten it while holding this. One could, but it's unlikely. Touch the heel with *m*. Go deep towards the heel. I'll let you give if you need to. You can teach yourself how far could I go. What might that stroke feel like? Leave *p* very loose. Don't go so violently or so fast that the other fingers have to move. So do this on the plane ride home. [As I do this with *m*, *a* wants to follow.] At some point I have to know whether that's just habit or a pattern you've trained in very deeply. Try it again. It seems OK. Pull it a bit farther. That's pretty good. I think it's just up here at the top joint. I don't think the tips were involved. Make

sure *ia* are collapsed, hyperextended, and keep the tip of *m* loose. This starts to unglue you."

Exercise 6: "Put *p* on the 1st string, and *i* and *a* as well. Just lean them in gently, just so the tip joints relax. Now put *m* on the 3rd string and pluck that same free stroke slowly. You've got a fail-safe mechanism there. If you've turned off either one of those, you can hardly tighten *m*. You don't really want to do that. There's a terrible inhibition against it, because something in your body knows that if you tighten one tip, the other tips are going to want to follow. So all you need to do is to break that cycle. Remember, *i* and *a* must be hyperextended."

Exercise 7: "Now put *p*, *m*, and *a* on the 1st string and try on the 3rd, as before. Probably you haven't hurt yourself real, real bad, irreparably; because there's a certain sanity in there and a certain system you were listening to. The macho 'no pain no gain' approach, where you can repress your actual physical feelings, can get you in a lot of trouble."

Playing a *pimi* Arpeggio

"Play a *pimi* arpeggio as slowly as you can. Start with a rest stroke on *p*. Stop. Immediately I asked for the rest stroke, your knuckles went out over the trebles. This loose free stroke is now possible, which means I'm asking you to do a lot of things from basically a hand position farther out. Try playing *i* with a soft tip and then letting it go, and then *m* with a soft tip and let it go, and then *i* again.

"Watch for when you're hovering in the air near the string. Ask whether you're hovering with your tips or are you hovering with something else. If I have to do that, to stay in the vicinity to get ready for the next fast arpeggio, I do it from the middle joint. I have an angle bend in my finger. My finger at that point does not necessarily look rounded, which might look more natural in a certain sense, but I can see that what I would be doing is keeping my basic position from the tips, in that case, which you don't want to do. So eventually you'll get this angle look.

"Let each finger return ridiculously to rest, in the first stages. The thumb stays on the string. Let the other fingers fall all the way loose, so it's like the exercise we started with. You have to find a way to select the string you want without locating it from the tip of the finger. If you do, the other finger will follow. So you have to find a way to get to the string without using the tip joint, only the mid joint.

"It's not what's happening when you stroke, it's what's happening in between strokes that is important. It's when you're not supposed to be doing anything that you're doing something. It's not how you're doing

what you're doing; it's how you're not doing what you're not doing.

"Here's another exercise to help. Put your thumb on the 3rd string and the middle on the 2nd. Stroke in a little deeper than you expect and then let it all the way out. The tip relaxes all the way. You stroke in all the way to the heel. That's your practice stroke for now."

Use of *m* and *a* in Classical and Baroque

Pat noted that a lot of practice with this combination makes a lot of trouble. He said there's a way to do this pattern without using the ring finger. [Pat plays an arpeggio *p* on 6th, *i* on 3rd, *m* on 2nd, *i* on 3rd, and *m* on 1st: *pimimimi*.] "This is a 19th-century approach. There are double *m* arpeggios. There are double *p* arpeggios where it comes down where we don't expect it. We all try to do this with the ring finger and with a lot of strain."

[Pat demonstrates the pattern from the Sor-Segovia study number 17, but not as Segovia does it: *ppimpimpimpi*.] "There is no use of a ring finger. There are some rest strokes with the thumb. Sor would never use the ring finger on the first with a rest stroke. So, we have a deep, resonant rest stroke on the bass, followed by soft strokes with thumb and index. Then we have the longer middle finger providing a naturally louder sound on the trebles, emphasizing the upper melody.

"See Sor's method and Brian Jeffery's article. We need a rethinking of Sor's études.

"You could do it the Segovia way, but it's simply hard. This Segovia way works great for Tarrega, since it's the Tarrega way. It works great for certain periods. But it happens to be just one way of playing. Once you apply it to music of other periods, including baroque, you get yourself in a lot of trouble.

"If you're very good at doing things the way Sor and Giuliani did them, with probably no rest strokes in treble and with them in the bass, and sticking to three fingers as much as possible, and the ring only when you really need it, then you'll be playing the music of that period correctly.

"The baroque lute usually plays basses with rest strokes and free strokes in the treble with mostly the index and middle. It tends to use the strong finger, *m*, on the strong beats and the weak finger, *i*, on the weak beats, whenever it can. Not to be compulsive, but as closely as you can."

[Pat plays the sixth Sor-Segovia étude, using *p*, *i*, and *m*.] "It's like a flute and cello duet. There are several thumb strokes in a row. It sounds nice and orchestral. [Then he plays the third étude using only thumb, index, and middle.] This works great on a 19th-century guitar or a light modern guitar."

Impact on Guitar Building

For all its supposed radicalism, Pat observed, Tom Humphrey's new Millennium guitar is very light in body. There's a gradual return to lighter bodies, smaller string lengths. Necks are becoming shorter; fingerboards are changing to make it easier to play. There's a retreat from massive, heavy instruments. These traditional techniques will be viable on the new lighter guitars, these really sensible techniques.

Pat concluded his comments on the value of using 19th-century right-hand approaches: "This is not only of historical or stylistic value, but the traditional techniques also have an anatomical and pedagogical value. I use early 19th-century methods in my teaching. Sor and Carulli played with the little finger on top—it puts you in a good hand position."

Pat's Summing up of My First Lesson

Pat concluded this truly revelatory lesson with a brief summing up of what I needed to begin doing once I returned home to Toronto. He had firm views about what I was doing wrong, but couched them in a kind way, and told me there was a light at the end of the tunnel. He reiterated that "What you need right now is to turn the tip joint down to zero for a while." Maybe in future I could add some firmness, but for the time being "it's gotten out of control." I was to look for each finger to be totally loose at the tip, and falling loose before I used another finger. This phase was not meant to last forever: "Eventually there will be a time when you get the next finger ready while the first one is falling loose, but you have first to take it apart." The key is to work very slowly, and, in any case, he noted, "You don't necessarily pluck in fast, but you always let go fast." He told me I should have a variable speed pluck and a single speed release.

He emphasized that "What you must do to reteach yourself is to do everything in slow motion so you can see whether there's a tightening within a stroke. Watch your middle finger and make sure it always stays loose."

I headed back home with a sense of hope, but a realization that it would take a great deal of slow, careful work. If this first lesson was primarily theoretical—I did very little playing— the second was literally hands-on.

LESSON 2

Three months later, in the summer of 1989, I once again flew from Toronto to New York to have a second session with Pat. In the interim, armed with my new understanding of the mechanics of finger movements and a handful (pun intended) of exercises to begin my re-training, I diligently worked every day, gently and with deliberation, on the work Pat had given me. I stopped playing any repertoire, as Pat had said that I had come to associate that repertoire with the dysfunctional finger movements.

Notwithstanding this injunction, Pat had asked me to play a work from my repertoire so that he could analyze in depth exactly what I was doing. I had "prepared" my arrangement of Bach's first Cello Suite. As I played the prelude, Pat began to watch very closely. He would slowly walk around me, occasionally hovering when something in particular struck him. After the prelude, he told me that I needn't continue with the other movements—he had gained a clear understanding of my situation from that piece alone.

Pat's General Observations of My Playing

He had many observations, not all of which were directly focused on my dystonia. I had noticed Pat was given to hyperbole. For example, he exclaimed, "If I catalogued the technical things I see that could be fixed I'd be up to the hundreds by now. Someone has criminally let you do most of the things that are the hard way to do things. You're doing them as well as you can. You're doing them quite responsibly and well, but in each case it's the hard way. Just a million things to fiddle with. Which is a hopeful thing in the sense that I can see lots of little glitches that some of this probably could have come from. You could improve so fast and so easily it would make your head spin."

He talked about everything from how I planted my feet on the floor to the position and angle at which I held the guitar, to the twist of my body to the left. None of my teachers had ever discussed any of these basics with me, and, to my discredit, despite all my years of study and playing, I had never analyzed my physical approach to the instrument. I simply worked on music and did the usual technical exercises and études. I subsequently completely changed all of these elements, and my playing became much more natural.

After this preliminary overview of my physical approach to playing, Pat turned his attention to my focal dystonia. He had noticed the

middle finger starting to extend around bar 12 and continue its wayward movements through to the end. He asked me to go back to the beginning of the prelude and play it again, observing, "The most significant thing obviously—I wish I could teach you every week for two months and get all of this crap lined up, because you could get everything else going real well—it wouldn't matter a damn if we can't get this thing going in the right hand. So the real important issue in the right hand is why that middle finger kicks out."

Zooming in on My Index Finger Free-stroke Release

"Play the first measure terribly slowly." I play.

"I'm watching something really important in the cycle of your index finger stroke. Countless times as you played through the piece, you got to the string in good shape, you let go the tip, and you either plucked straight up in the air from the tip or, more commonly, you plucked through pretty well with very little tension in the tip, and then you held the finger up here bent until you were ready to use it again. So, in other words, as the middle finger played afterward, the index was held up here bent somewhat. At its worst, there were moments when you had a phrase that culminated in one solo middle finger; your index finger was held in as you played it, nowhere near loose. It was two inches from where it should be, not just up in the air, but way back in there. As the problem progressed, in the course of playing, the index finger seemed gradually to get worse, this holding in. The kicking out of the middle finger reached its worst somewhere in the middle of the piece, perhaps because of the musical configuration there."

Pat's observation was crucially important, and marked the beginning of my recovery. No one had ever actually watched what my fingers were doing. The crux of the problem lay neither in the middle finger, nor in the stroke of the index finger, but in what my index finger was doing *after* plucking the string.

"Here's a theory. The holding in of your index finger automatically puts a little tension in your middle finger. The extra pull outward that you've been putting into your middle finger for a long time was to some extent perhaps to compensate for the fact that at the moment you were recycling it, it was wanting to stay inward because the index and possibly the ring were cocked at that moment. Your ring goes in, but I think it goes in from the middle joint, which is safe. I don't think it's hooked at the tip. The index does get hooked at the tip not as you play, but as you're idle after you play. You don't relax it and leave it relaxed. It doesn't bounce back by itself, you have to relax it."

This was exactly what Bill Kanengiser had observed, but Pat had seen the connection between the index and middle finger movements. Then he gave me some very targeted advice which I have religiously followed ever since.

"For now, I'd like you to play that measure terribly slowly and overdo the relaxation. That means this: do not relax and aim back at the string in question. Relax and let the finger fall outward completely. Just let it go and see what we see and what we feel. See if you can do this trick all the way through the piece. Most of the bass notes should be rest strokes, especially the 6th string. Let the index go all the way out. Don't aim it at the string, go out all the way. Be absolutely careless of where it has to be next.

"I think the muscles you use to aim it at the new string are not in the middle of the finger or at the base, but at the tip. I think you're accustomed to aiming or holding it in the vicinity as a guitarist will, preparing it for its next use. And you're using the tip, which means you're using the flexor digitorum profundus. And that's having an effect on the middle, requiring you to make an extra effort to pull the middle out.

"Now here's a thing to test. Were you to play the piece experimentally that way all the way through, letting every index completely flop loose to wherever the bottom of its stroke is, would you in fact find less of this pulling out of the middle finger?"

I play through part of the prelude again, Pat watching my right hand like a hawk. "What I saw right now for a few bars looked very good. I can't say where that would go over the course of time."

Looking back as I review that lesson, I am still amazed by the directness with which Pat had diagnosed the root cause of my focal dystonia. There was much more, of course, but this one insight changed everything for me.

My Nervous Quick Free Stroke

Pat next turned his attention to the manner in which I was actually plucking the strings using free strokes.

"You have a nervous quick stroke. You don't need to pluck anywhere near that fast in normal playing. Were you to stroke more slowly, your sound would sustain more. You tend to hit the string and not really stroke it. In normal playing you should stroke more slowly. The rule is, 'in slow, out fast.'"

More sage advice, which I have followed ever since. But as I played, my well-learned dysfunction continued.

Role of Top Knuckle and Middle Knuckle in Stroking

"The very first stroke you made, at its end, it cocked using the tip joint. Now, if you could aim at that string not with the tip joint curving but with an angle, with the mid joint angled, indicating that the tip was loose, that would make a tremendous difference in the interaction from finger to finger."

Again, this was simple, but profound. I hadn't realized that the actual stroke began with the top knuckle (MCP) joint bringing the finger to the string, and then the middle knuckle (PIP) joint actually doing the plucking. At speed, it looked as if both the top and mid joints were simultaneously involved. It was not a matter of "collapsing" the tip joint, which some have accused Pat of advocating, but of not having it actively flex in making the stroke, and, in my case, of letting the tip relax completely after the stroke. Pat went on to differentiate between the various phases of the stroke.

He had explored my follow-through after the stroke, and he had delved into the nature of the stroke itself. He next went into the matter of the preparation of the stroke.

Preparation of the Free Stroke

"There is a way you could aim at an inner string being prepared in an arpeggio that is acceptable. Curiously, this is one of those things where it's not how you're stroking the string; it's what you're doing in between the strokes. It's not part of your playing per se. That means that this particular problem, which may be part of this whole thing, it may be the most important part, we couldn't tell, in hindsight we'd know—if we could get rid of this problem, the first stage would be getting used to relaxing completely in between strokes.

"The next stage would be some way of learning how to get to the string without that tension in the tip. You have to be really careful as you do this not to move the tip at all. Don't aim at the string, don't think about a string.

"It's like the alchemist's formula that you can change boiling water into gold if you don't think of an elephant: as soon as you say that, obviously anyone thinks of an elephant." As he made this analogy, Pat was manipulating my index finger. "You wanted to control that finger somewhere. And you have to feel that that control comes from somewhere else, not the tip. There was a moment when you didn't want that to happen. I'm talking about learning to pull the finger without tightening

the tip. The key is being able to come to the string without ever having to hook the tip on the way."

I noted to Pat that when I made a free stroke as he described, there was a physical sensation of the flexed middle knuckle joint popping back to a zero tension position when the flexion is released. I didn't have to consciously think about bringing the finger back. His response: "I think you may be describing something which is really important. Both segments of the finger tend to fall loose with a thud. There's a definite feeling of both of them going ker-chunk at the bottom. You have a tendency, as you release, to hold on to the end of it with the tip. Rather than going completely out, you're holding a little extra. You were definitely doing that in that piece, and that's definitely an important part of the interaction between index and middle fingers."

Analyzing the Whole Free-stroke Cycle

"Let's see what happens when you play index and middle on the 2nd string repeatedly. Select the string you're going to play from the middle joint of the finger with no tension in the tip. You're pretty good at that part of it. Allow the tip to relax as you build up force into the string. Press the string down a little bit toward your body, toward your belly, and pluck.

"And then let it go completely. Fine. Now, have you let go completely?" Not quite. "You may have let go completely, and then decided well, I'd better stay there. That's the crucial moment for us. You may be letting go on these strokes, but you let go and then you go like that [he demonstrates me aiming with a hooked tip]. Do you come from the follow-through into the hand to the hook, or do you come from there to there and then hook in preparation? I'm not sure."

I ask Pat how I can tell whether the tip is relaxed in a "flex position" in the air, or if I am actively flexing it after and before the stroke.

"That slight flexing of a completely relaxed finger is hard to tell from a deliberate hooking of the tip joint. The difference between those two is crucial. You have to look into that slight flexing very critically and find out exactly what 'slight flexing' is."

An Experiment in Tip Relaxation

"Put your index on the 1st string and gently let its tip relax into the string. Very, very gently, with almost no pressure on the string. Now just leave it there. Now I want you to reach to the 2nd string with your

middle finger and pluck it with a free stroke. Let it go completely to total rest every time you do. Don't hold it aimed at the 2nd string. Just let it go. Try that a few times. When you're actually plucking the middle finger in the piece, I want, at that moment, the tip segment of your index finger completely relaxed.

"This is about the only way I can be sure that it is. You can be sure from inside your body if you listen carefully to what your body is telling you. I have to see it from the outside. So I can fix it like this, and say there is something about this disengagement of the tip that is useful to you.

"It's an interesting thought—disengaging the deep flexor muscle. Do that with your ring finger as well on the 1st string. Put both the index and the ring. Just pluck free.

"Sometimes, by this kind of procedure, you can develop literally a biofeedback exercise of a kind that tells you, 'This is what it feels like.'

"Now here's the problem. Pluck and relax all the way with your middle finger. My contention now is that you can't tell the difference between those little bits of tension. As you come in to select the 2nd string with your middle, I'm going to ask you to do something kind of weird. Let your middle come out quite far, let it relax completely. It should be in front of the 1st string as the index and ring are resting on the string. You have the next task to achieve, which is to select the 2nd string. That's pretty tricky, inside the other fingers.

"Here's what I want you to do. See if you can select the 2nd string without ever flexing the tip of your finger. I think that when you are purportedly at rest between strokes, you're often holding a good deal of tension at that moment, and that's an interesting moment to figure out.

"I had you hold your index finger on the string for quite a while. I want you to see if you can use that gesture, from the middle joint, to get to the 2nd string with the index. Bend from the middle joint and not from the tip. Not bad. Pluck gently from the middle joint. Make a pantomime of a pluck. Now try the same thing, but when you finish plucking, hold your finger in for a few seconds while I tell you what to do. Look at your finger shape. I want you to relax it just enough that it comes back and aims toward the string you're going to play. That looks good. That looks like an angle, not a curve in the tip. How much curve in the tip—there's a minute amount at rest—how much is natural. If you have enough tension to feel a side effect anywhere else, that's too much. This is damned tricky to learn. How are we going to develop a way to do that? You have to do that individually with every separate person, but that's the moment."

Preparation Aiming with the Middle Joint

Pat asks me to play the first measure of the prelude again.

"This time I want you to go half the speed you went before. Assume you had spent a week just letting go all the way with the index.

"Now, what would be an acceptable way to aim for the 3rd string, which essentially you will do in time. You won't let the finger go all way out every time when you're actually playing. You will keep it in readiness. Yes, it has to be a way that does not interact with the middle finger. OK. Try."

I play, incredibly slowly.

"Play and don't let the index all the way out, keep it at the 3rd string in an acceptable way, and keep it there as you pluck. Most of that aiming has to be done through the middle joint. That's the danger spot for you. That's the one I was seeing during that rendition of this piece.

"If you played it 10 times I might see 10 different things, but that's a real important one and it's common. One of the hand positions you played in over the years may have been low enough or far enough to the bass that you had to do a lot of tip hooking to get to the strings, and you developed a habit that now is a part of two or three technical systems ago, but is stuck somewhere in the middle of the one you are using now which, to the best efforts of the most reliable teacher you could locate, can't quite be cured because it's a vestigial remnant of an earlier state of evolution.

"How we're going to get rid of that—we have to develop—it would drive me crazy to practice it in a piece of music. I would have to find it out in a piece of music and then take it aside somewhere and warm up on it in an exercise so that it worked well."

A Digression on Playing with Great Tension

"I have wrestled with this for so many years and I have seen so much dumb thinking, arbitrary dumb-headed guitar-playing nonsense that hurts so many people that I'm furious about it.

"I feel like I'm a tent show preacher getting down on the floor to wrestle with the devil. I've seen some of the best young players, some of the people who cared the most, worked the hardest, were most intense about playing the music, and therefore translated that tension into their playing. On the other hand, I've seen some of the dumbest, lumpen, dullest players do fairly well because they didn't care enough to hurt themselves.

"They were all taught badly, but the guys who didn't care very much didn't hurt themselves. The real passionate people hurt themselves the worst. I could spit nails. Every once in a while, when they want something bizarre, they come and invite me to speak at the GFA [Guitar Foundation of America] or something like that, and I get up and tell them they're nuts. They like to invite a resident weirdo in now and then. When I lectured in Akron last September, the opening line of my lecture was, 'You hurt so much because you play so ugly.' That is to say, you usually get this question about technique from somebody who just pounds the shit out of everything he plays. But the problem is, from that aggressive school of playing trickles down ideas that just screw up everybody, no matter where they come from, no matter what their nature is in terms of playing."

Relaxed Release and Preparation

After Pat's passionate outburst, he returned to the problem at hand: how to position a finger after the release in preparation for the next stroke.

"Once you can do this stroke right, you have to think, 'Now, what happens when I use it in context? What happens as I move from finger to finger, rather than just one finger at a time?' That is a damned difficult thing to do.

"I began last time showing you a very preliminary exercise which you can see has part of this effect about it. When I asked you to put your thumb on the 1st string and reach inside with the others, I was asking you in effect to select the string with the middle joint of your finger. So, coming in, you're doing pretty well with getting to the string and plucking it without that tension.

"Now I want you to do that same exercise, but now don't let the finger all the way out. Let it fall back only to where it aims at that string again. Freeze there. You're the only one who knows what tension is in that joint in the tip right now. Are you doing it from the tip or from the middle joint? Or are you doing a combination? Sometimes I will see extreme tension in the tip because the middle finger on the outside will curl up. But you're the one who knows.

"So I'm over here on this side of the room saying I don't know how it feels inside your body. You are the one who has to figure this one out. Pluck again. Then let go in this specially selected letting-go way. What I asked you to do was let go everything in the tip of your finger, which of course you didn't have to let go because you never tightened up in the first place.

"But I asked you to let go part of the way with the other two joints, and then hold part of the way out with those other two joints. That is a pain in the butt. Now, stay there. Come in with your middle finger the same way. Pluck the 3rd string keeping the index aimed at the 3rd string, not on it. Watch the tip of your index. It must never tighten up as you do this. It's got to stay loose as you play the other finger. There's a thing there, if you had to play index-middle alternation, or if you had to play an arpeggio, they've got to work independently."

The White and Pink Test

"Put your thumb on the 1st string. Let's see what we've learned here. Let the other fingers go. OK. There was a trick right now. Just for a minute I'll make mention of it.

"As you came to the strings, you went like this [he demonstrates by hooking the tips] and you had to let go before you began. In other words, as you aimed at the string, you already had the tips bend.

"Now watch. Aim at the string and bend the middle joints and you're OK. If you bend just from the middle, you're fine. But if I see this pink flesh at the tip joint turn to white, you're in trouble. I sometimes do this with people. I draw a circle on their finger and I say, 'No white in that circle.' Never any white in that circle, not when you're selecting the string, not when you play it, not when you follow through, not when you release. Never!'"

A Digression on Grabbing Things in Life

"Never flex the tip joints. One grabs things deep in the palm of one's hand. It's not a more secure grip when you tighten the tips. In martial arts, you are never taught to tighten them, in stick fighting, for example. Weight lifters also are taught to relax their tips. Women guitarists with tendinitis have cracked a glass while washing dishes: they hook the tips.

"It's interesting to observe yourself as that happens day in and day out. I trained myself on the guitar so carefully to let that go because it was the source of my horrendous tendinitis. It wasn't just dysfunction for me. It was pain. In other words, not just something that misfired, it hurt. And it hurt all the time. Twenty-four hours a day for a couple of years. Even if I stopped playing, it still hurt.

"Whenever you practice anything on an instrument to a certain degree, it will come to be part of your body language in the rest of what

you do. If you understand what I'm telling you now profoundly enough and change it in other things that you do during the day, it leads back in, it aids and abets this thing you're trying to do.

"I won't tighten up the tip of a finger for nothing, man! I don't know how hard you'd have to push me to get me to go like that. The tips should be a third, spare, backup emergency system you only use in rare situations and then very briefly, not to hold weight, but to articulate."

A Pause, Where I Summarize Pat's Advice

By this point in the lesson, Pat had noted several crucial elements pertaining to every stage of the free stroke. To make sure I had understood correctly, I went over his suggestions. In the return phase of the free stroke, I should arrest the return to just in front of the string to be played next, but only use the middle and MCP joints to do this. Pat nodded in agreement. I went on: "When I first play a free stroke, I should let it go back all the way to establish relaxation of the tip joints." "Yes," he said. When that is established, I should let the finger return only as far as just in front of the string. Again, Pat affirmed my understanding.

"You will in time develop, naturally, the need to arrest the relaxation in midstream to keep your finger close to the string where it's going to be used again.

"That has to happen in an arpeggio. That has to happen in a lot of other situations. You simply have to define how you do that task in a different way. If you could sort out that task, I think you wouldn't have to wrench the middle finger loose from the index when it needs to be used, or just after it's plucked. If your index finger was loose in the tip, then there wouldn't be the same thing holding the middle inward sympathetically. This could be the key.

"As to the free fall return and arrested stop before the string, that I envision as a fairly advanced technique. I don't ask someone who has this kind of a problem to do that right away. He has to learn to relax first. And then he has to define a very selective partial relaxation."

The Importance of a Big Sound

Volume is important, Pat insisted. And the way to achieve it is to make sure the stroke pushes the string downward so that the top vibrates up and down.

"Your job, once the tip relaxes a little bit, your job is to press the string downward, not sideways. I want you to press it in quite a bit and then pluck. If you find you can't clear the next string, your knuckle isn't in the right place. Just move your knuckles down more towards the treble. Press in deep and pluck.

"For now, when I want you to go powerfully, revert to letting the finger go completely loose at the end of the stroke.

"You need to select a nail shape that works better when you do this that doesn't hook at that moment. When you get to the string, press in deeper and make a much louder sound. Be real careful as you build up pressure into the string to remember that you want to follow through like a strum as though you were going all the way in to the center of your hand. Be careful, therefore, not to lean one way or another onto the corner of the nail as you play. Just follow through deep.

"If you find that didn't work, adjust the nail shape so that it did work, rather than feeling you had to twist to get off the nail. Watch for white in the circle at all times. This is what I'm looking for now, a big sound, for a lot of reasons. Among other things, if you make a bit fuller push, you feel what's going on more. In other words, the sensation is more poignant.

"You can feel more about where the energy flows if you're a little more emphatic. I'm not talking giant volume. I just want you to trust yourself and lean in a little more. Go for a little bit bigger sound so you're really sure of what you're feeling. Play slow, loud, and free.

"Use your middle finger the same way, with power. A hallmark of this going well is that this will be increasingly loose in the ring finger. Press in quite a bit. When you pluck from a loud stroke, let it flip in as far as it wants. Don't try to hold it back.

"If you do try to hold it back, after the powerful lean in, the only way to hold it back is to tighten the tip. You do eventually let it flip in as deep as it wants, and it will want to go very deep after a powerful grip, and then you stop it on its way out in the way we've talked about. You arrest it after it's completed its loose follow-through. The harder you press into the string, the louder it will be. Don't limit the follow-through of a loud note. Use the ring finger in the same way."

Positioning All the Fingers

"Have a position that accommodates all of the fingers, a compromise position that works for everything. Often, at this stage, whenever I get a new definition of a certain thing I want, I will ask you to play *imia* or some such alternation pattern.

"The idea behind those is to get a position of the hand which is compatible for all fingers. In other words, so I don't go *imim* for half an hour and then discover I have to go to a different place to get *ia*—I don't think that's productive. You have to find a system where all your wheels make a three-point landing, it is possible.

"It's not always possible with all instruments, but here I think it's essential in the 20th century. Maybe it wasn't necessary for Sor because he didn't use the ring finger much. Maybe it's also not so essential for Tarrega because he almost always used the ring finger in a rest stroke. But there are times in an arpeggio where your ring finger has just got to be available right away and you've got to go rolling right back to the other fingers and you've got no time to change your orientation. There must, then, be a way to develop that facility.

"Sometimes, in later points, when people are solid, I will go on to some other idea and I'll have them play *aiam*. In other words, begin with whatever position the ring finger needs, it being, in a sense, the finger at a disadvantage, and then work back from there and see if you can play the other fingers, which are pretty strong and pretty flexible in a position that accommodates the ring."

Importance of Rest Strokes for Developing Free Strokes

"I want you to start practicing with rest strokes, pressing in quite deeply, and then play the free strokes afterwards. If you aim to begin a scale with your 2nd finger and your hand is in a bad position, your index cannot reach the string.

"It is more customary, in better technique, to aim so that you know the index is comfortable on the string. You need to focus on where the index is when you are playing with the middle finger. You don't want it out from the string. The index should not have to stretch or lean. It should not be working hard.

"The same way should be used to accommodate the ring finger and adapt a method where the other fingers play in the position which favors a real good stroke for the ring. In other words, decide where the weaker finger should be and then adapt the stronger fingers to accommodate it.

"Rest and free strokes are basically the same, the only difference being the wrist position. The selection process we did such a long thing about is specifically something that has to be worked out in free strokes much more than in rest strokes and it is more sophisticated.

"That's why one's practice usually starts with the primal, simple rest stroke and afterwards you go into the free strokes. And again, from the

place where you relax, the key, perhaps, for you, is to begin the selection process from the middle joint before you use any of the top knuckle joint. To get to the 3rd string, you come in with the middle joint and then you go into the stroke with the knuckle, the metacarpal joint. When you do that slowly, you're monitoring the whiteness in the circle around the tip joint."

Reflections on His Work with Guitarists

Pat mentioned that he was working with a guitarist whose right-hand technique had been compromised to the extent he had to stop playing. His problem was similar to mine. He had come back to the guitar, working with Pat every month, seeing good results. The guitarist was seeing a neurologist in Braintree, Massachusetts, an amateur blues guitarist and finger-picker, who asked Pat about his work with guitarists.

"This guy asks me what did you do, how did you do this, how does it work, and I say I don't really know how it works. I know that I'm looking at a chain of events and that my little handle by which I maneuver this, my point of leverage, is this particular kind of thing. But I do not know what caused it.

"I do not know what caused your problem, but this little thing I'm teaching you to do was always present and a little too tense in your playing. So by making this better, maybe the other thing [the dystonia] goes away, whatever it was. There are many factors in any particular physical action, and sometimes if you take 20 different things that you move to make a gesture, if you make any three or four of them supremely efficient, all the others loosen up in a big bunch. The bundle lets go. And there's no one who could tell you exactly which three you had to sort out, or why you went over the edge into a problem, because it could be any one of so many different things. Intuitively, you kind of know things about tension in your body, and you can discover things accidentally."

On Firmness in the Tip Joints

As I mentioned earlier, a number of commentators on Pat's teaching approach oversimplified greatly when they claimed he always insisted that the tip joints "collapse," a term with rather negative connotations. My experience working with Pat was that his approach was far more nuanced.

I asked him to demonstrate rapid *pimami* arpeggios for me, just to observe how his fingers were working. He did so, slowly at first, gradually building up tempo. And then he stopped.

"I have an inhibition about moving the tips of my fingers, which means that I won't play fast and loud unless I'm warmed up. It would take me a few minutes to be able to do this at any kind of limit of speed, and in fact, I haven't practiced arpeggios like this in years. I could play you recordings where I play them fast—you'd have to believe me that I wasn't using the tips to do it.

"For most players, at very high speed, there is actually a little bit of stiffness in the tips, and I think it's perhaps always tolerable in certain situations once you've learned to control it really well."

He proceeded to turn the situation into a teaching moment. He asked me to watch him do this arpeggio pattern.

"Watch from the side here. Watch my index finger. I see a little bit of involuntary motion, some little things going on in there. If that's happening, I know I can't really go as fast and powerfully as I want. I know that I'm really out of whack somewhere and that I'd have to warm up a few minutes to do it. But normally you try and stay somewhere near the string and you're watching me aim and seeing a little extra stuff in there. When I play at my best, it stays really still, and at that point I can go real quickly. When you play the lute you hardly ever play arpeggios. Or you do them like *pimiaimi*. You don't do four-finger arpeggios all that often. Watch my middle. My middle at rest is curved quite a bit. That's rest. I found a moment ago that I wasn't quite letting go enough. I know once I warm up that's one of the things that works out well. I let go a little bit more."

In the years since that moment, I have come to realize the validity of what Pat was saying. If I try to play without carefully warming up, the dystonia comes back. You can't unlearn what has been learned. But you can create a new set of neural pathways that can be superimposed. The purpose of warming up properly is to activate that new set of reflexes. Like Pat, I find that velocity and power come only after careful preparation. And some days are better than others. Since I do not perform on a regular basis, this is not a cause for concern, but simply something to observe. A concert artist of course has variability, but in his or her case, there must be a very high baseline that they can count on.

"Theoretically, at some time in building velocity, two things would happen if a person had a fingertip joint that didn't extend as much. He might be able to engage that finger loosely, quicker. You would reach that limit on up to where you were playing 16th notes at 180 and he could play them at 190. The increase in speed would be a hardly useable musical thing, but it might be there somewhere at the top end.

"And one other thing, which is this: his nail would depart from the string when the finger was fairly straight and a little less relaxed, and that means his tone on that note when he played that high-speed arpeggio, his top note would be a little more shrill than yours, or he would have to make his nail straighter across. In other words, he would have a gentler curve rather than more of an arch. He would have to adapt some way to get a good tone out of that finger. People whose fingers stop straight tend to have a pretty shrill steely tone, all other things being equal, and they never are. Those people will tend not to be able to get a real nice sound out of a free stroke at high speed and will tend to always use rest strokes in that situation. In other words, they will adapt in some other way to make that work. So there are pluses and minuses to any one of these factors. Your fingers, in general, as I watch them, do not relax outrageously far back. Many fingers go a lot further than that."

On the Relative Value of Speed

"Remember, you don't really need speed, recyclable speed, out of your ring finger. You do most of the speed playing with the thumb, index, and middle. If you play a fast arpeggio, the ring gets played once, and the result is that you don't really need to play *amamama* real fast. Somebody whose fingers don't push out much, who don't hyperextend much, might be able to play faster with middle and ring. I've seen it lull people into a sense of security that came up and hit them later when they pushed that technique rather arrogantly too far.

"I saw someone as a party trick play a very fast piece with *m* and *a* because he had broken his *i* nail. He was actually showing off at a guitar event, and he'd actually practiced this rather furiously and knew he could do it pretty well. He pushed it real hard, and I talked to him a week afterward and he had such pain in his hand he couldn't believe it. He played "El Colibri" or something like that really fast, and of course all of the people in the crowd were blown away by the chops this person had. They didn't care about the downside, they didn't see the downside.

"If you lost speed, if it's true that you actually lost speed that way, by letting the tip go, and you happened to have a finger that hyperextended, that is a thing you would have to live with. The point is that when you're playing with these two fingers really independently, simply, you'll time it so that you begin the approach with this finger a little sooner. The only time you would reach a flat-out top speed would be if you were playing *aaaa* as fast as you could repeatedly. As long as there's another finger in between, you're basically not going to get into that area. In theory it seems

important, but in the end it tends not to be.

"If you looked at the recycling of my fingers, and exactly when I begin the inward stroke with one finger while the other one is falling loose, I begin that inward stroke if my finger relaxes a lot, probably a little sooner than someone whose finger does not relax a lot [i. e., hyperextend a lot]. In other words, my timing is a little different. It doesn't matter at all as long as I've worked it out that the two independent systems operate independently next to one another and so that there's nothing that recycles between those two like the profundus muscle.

"There is a difference in how anyone's stroke works that way. That has much to do with, for instance, species. Different animals have different patterns of, say, gathering their feet as they run. There are individual differences in executing physical movements. That's why a teacher should not try to have a student imitate exactly what they are doing.

"Some people can remember the physical sensation of a particular movement very keenly and can, as a result, reproduce it any time they like. For instance, if they play a certain passage in a very fluid manner, they can recreate that whenever they like, because they are able to remember precisely what it felt like. In contrast, the rest of us have difficulty in calling back a physical sensation."

Afterward

Once again, after this session with Pat my mind was overflowing with ideas. It would take time to process everything, to fully understand and absorb everything Pat had told me. Because I was beginning a new career as a high school teacher, my time for practice was limited. In retrospect, this was a very good thing, because it was not possible to overdo my retraining. As Pat repeatedly insisted, the road back had to be taken gently and patiently.

I began to turn Pat's suggestions into practice procedures, inventing my own exercises based on his recommendations. I made no effort at playing any pieces, but focused wholly on implementing his ideas on how to best move my fingers and joints. Above all, I was determined to work so slowly that the dystonia would not show itself, and to only increase tempo extremely gradually.

I began taking notes on my practice sessions to help guide me. I gave myself reminders: "Always ensure a high level of success at any point; establish a base point where success is guaranteed; always work slowly enough to allow complete conscious control of movements until correct reflexes are firmly established."

I explored the various possibilities of tip joint firmness and extension: hyperextension, more firmness, variable degrees of flexibility. I followed Pat's advice to begin with absolute relaxation in the tip joints. This was natural in rest strokes—and I did a great deal of work with apoyando on single strings and crossing strings, focusing on relaxation and the four stages of the rest stroke—approach to the string, downward pressure, release and rest on next string, and return.

I gradually reintroduced music—mostly selected passages from pieces to use for retraining. One cannot live on pure exercises forever! Eventually I began to learn new repertoire, but took my time, carefully working out fingers for both hands that suited me musically and physically. I practiced slowly, watching my right-hand fingers like a hawk, making sure I followed the principles taught me by Pat.

I spent a great deal of time with free-stroke alternation, using the proximal interphalangeal joint controlled by the flexor digitorum superficialis to aim at the string. I made sure the flexor digitorum profundus controlling the distal (tip joint) was not activated by concentrating on the muscles controlling the middle knuckle and the upper knuckle. At first I let each finger pluck and return before starting the next finger. Then I began timing the return of a finger after a stroke with the movement to the string of the next finger. I experimented with "staccato planting." I graduated to such études as Carcassi No. 14. Slowly but surely I noticed definite progress.

I also worked extensively with arpeggio patterns, beginning with simple ones like *pim*, *pma*, *pia*, and moving to *pimi*, *pmam*, and *piai*. I used 19th-century studies by Carcassi and Aguado, and Pujol's "El Abejorro." I tried Yepes' *piam* pattern as a replacement for *pimi* and found it worked beautifully.

In January 1990 I went to the Canadian Centre for Performing Arts Medicine in Hamilton, Ontario, and was officially diagnosed with focal dystonia. I was given a binder full of medical articles all basically saying they didn't have a clue how to resolve dystonias. I learned about how the careers of pianists Leon Fleisher and Gary Graffman were cut short by focal dystonia. I had a complete neurological examination that revealed absolutely everything was normal. One of the doctors suggested I try injections of botulinum toxin to paralyze my middle extensor. I recoiled at the prospect.

I continued to work gently and quietly on the complete right-hand-retraining program Pat had outlined for me. In October 1990 I returned to the CCPA for a follow-up. To the utter amazement of Doctor Chong, the director of the centre and himself a former pianist, he

observed that my dystonia had vanished. Quoting from his report: "Mr. Silver has made significant inroads in his road to recovery in dealing with his right hand focal dystonia. He has successfully applied a number of relaxation techniques including not using his extensor digitorum muscles excessively. He is now beginning to do simple hand manoeuvers and is increasing the complexity of his right hand's movements. He is making excellent progress."

He suggested that I set up a guitar workshop at the Royal Conservatory of Music in Toronto to work with fellow recovering dystonics. This never materialized, but I stayed in touch with Pat to discuss my progress. He began sending people with dystonia to me—he wanted to get back much more into music-making, lute-playing, and the whole early music world, and cut back on working with musicians with various dysfunctions. Accordingly, over the next couple of years, several individuals made the trek up to Toronto. I never charged them a penny—I was simply so grateful that Pat had shown me the way back to making music. Some of them had dystonias far more pronounced than mine—with fingers involuntarily curling up into the palm. One had effects that extended into her daily life.

I believe one positive factor was that I was no longer focused on being a professional guitarist. My new profession, teaching English language and literature, was intrinsically rewarding. I realized the importance of leading a balanced life. Part of the emergence of the focal dystonia came from a period of obsessive practicing. I treated myself as a work in progress, a case study, watching my fingers carefully, gradually extending and expanding. I recorded observations that helped me maintain a state of calm equilibrium:

"My problem won't get any worse, it can only improve; I never was a great virtuoso, as I began too late and had poor teaching, so I need to be realistic about choice of repertoire; much great music does not require blinding speed and facility. I was musical and a good learner; there's nothing wrong with alternate fingers to simplify right hand situations, *pi*, *pm*, *pa* alternation, *pim* scale patterns, *ami* scale patterns; focusing on correct motions slowly will inevitably lead to a set of new conditioned reflexes to be laid over the old ones."

In time, I found that not only had I recovered from the dystonia, but that my playing skills were better than they had been before its onset. I performed now and then, feeling confident that my fingers would work well. A decade ago I was invited to go to Serbia to give a number of lectures on historical guitar recordings (I have been the project leader for the series of historical CDs for DOREMI entitled "Segovia and His

Contemporaries") and duo recitals with my friend Uroš Dojčinović. Despite the inevitable stress of performing in public before large audiences, my right hand never let me down.

My gratitude for the help Patrick O'Brien gave me so many years ago is profound. I was saddened to hear of his premature passing. Although we had not been in touch for a long time, I still cherish his teachings. Fortunately, I tape recorded and transcribed my lessons with Pat. My hope is that my account may be useful for other guitarists (and lutenists) who have been afflicted with focal dystonia.