Bringing Hands and Arms Back Into the 'Recipe'

An Interview with Jan Sultan

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ABSTRACT *A conversation about hands and arms with Jan Sultan. The discussion explores the contrast between how hands and arms were underemphasized by Dr. Rolf and the modern inclusion of that material in the 'Recipe'.*

Lina Hack: Let's dive in, do you remember any moments with Dr. Rolf where she discussed the hands and arms of a client or gave a lecture on that topic?

Jan Sultan: I was reviewing my original, handwritten class notes. I have a three-ring notebook with topic dividers: one divider for each session in the Series; another divider for anatomy-specific stuff that she would talk about; and a third section of the notebook was what I called *wisdom*. I would go to *wisdom* when Rolf would go off topic. This was when she'd just discourse about things that weren't related to a session, or to the body directly, but more contextual. In all of this material, there is nothing in there directly elaborative about the hands and arms.

When we got to sessions eight and nine of the Recipe, the upper and lower choice, she did have observations to make about the shoulder girdle and the particular ways to position the arms to get the connections, of the elbows straight out, elbows straight in, in a sense to reset the geometry of the limb. But she didn't have much material about the anatomy / structure relationships of the arms and hands. It's just not in there. In conversation years later with Peter

Rolf had this particular thing about the arms that she did say: in a disorganized body, people tend to use their arms as though they were part of the neck; in a well-organized body, they use the arms as though they're part of the thorax and the trunk. Also, when the elbows are correctly organized, people engage their pectoralis and latissimus to lift or to do activities, but when they're not well organized, they lift their shoulders to get strength and it impedes the mobility of the neck.

Melchior and Emmett Hutchins, we were collectively amazed that how weak the Recipe was on the arms. I wasn't the only one to notice this.

LH: Do you think that there's been a change in how clients present themselves? Maybe people are working with their hands more now?

JS: Well, yes, there's a huge difference. When I think back to when I trained, in 1969 and 1970, we didn't have computers. We didn't have internet. Telephones had dials, people's homes and jobs were closer together, so much less sitting in cars and commuting – we actually walked a lot. People now do a lot more specific work at keyboards, and don't even write much anymore. The process of making things has now been supplanted by what I call the artificial intelligence revolution. So, first off, people don't use their bodies the same way they used to.

These days the people who use their bodies a lot are either athletes or blue-collar industrial workers who are still in manufacturing, but that whole group of workers who really did assembly and innovation, they've disappeared. You'd probably find more of them if you lived rurally. But if you live urban, nobody builds anything. In the Great Depression of the early 1930s, about 80% of the population lived rurally, and only 20% urban. So, I think the people literally aren't in themselves the ways that they used to be.

LH: That makes sense. The technology and lifestyle have shifted our body usage and body awareness.

JS: Yeah. I think, with that whole-body dexterity, a certain quality of intelligence has left the culture, or at least the North American and European life patterns.

LH: Would you say that Rolf's early Recipe didn't have much emphasis on the arms potentially because people were needing more spinal alignment, or just alignment in general? How were the clients presenting in class? Is it maybe they were just so disorganized in their axial standing structure, the arms were the least of her concerns?

JS: Rolf had this particular thing about the arms that she did say: in a disorganized body, people tend to use their arms as though they were part of the neck; in a well-organized body, they use the arms as though they're part of the thorax and the trunk. Also, when the elbows are correctly organized, people engage their pectoralis and latissimus to lift or to do activities, but when they're not well organized, they lift their shoulders to get strength and it impedes the mobility of the neck. A lot more could be said about the gym training that has taken the place of 'real work' and how necks disappear into overworked upper girdles.

So, people don't lift as much. If you sit at a computer, you're largely using the top part of your arm, your trapezius into the neck, more than you would use your pectoralis and latissimus. You simply don't. So, we have this fine motor activity that's going into the neck from the arms.

LH: Rolf's book, *Rolfing: Reestablishing the Natural Alignment and Structural Integration of the Human Body for Vitality and Well-Being* (1989) speaks about the yoke that we wear, that the arms are hanging as part of the shoulder girdle around the rib cage. How does the yoke play a role in how the arms feel and execute movement?

JS: The way she described that was that when the yoke sat correctly, you didn't have the arms impeding the neck but rather the yoke bore on the rib cage, and left the head and neck free to be more articulate.

LH: So, what does an arm that has completed the Ten Series looks like? What should a Ten Series produce for the client's arms structurally and functionally?

JS: Well, if you think about, somebody walking with that normal contralateral movement through the thoracolumbar junction, they would have arms that don't impede the gait but rather are following and augmenting that contralateral movement. So, as the thorax moves left, the left arms comes forward and swings. As it comes back the other way, that right side arm swings. So, the arms are following the contralateral movement and contributing to locomotion in a graceful way.

If somebody's shoulder girdle is bound up, you see tilting from side to side when they walk, and they don't use contralateral movement but rather they look like they're lumbering. There's a lot of side movement of the spine, rather than the twist through that keeps the midline. In a less organized body, you have the whole mast of the spine moving side to side with the gait and the arms typically either held close the body or swinging wide – not tracking in coordination with the legs.

LH: How would you say that the 'Line' and gravity are interacting with the hands and arms? There's so much movement to the arms, what is the Line in the arms?

JS: I don't think about it that way, frankly. For me, I'm echoing what I heard Rolf say so long ago, which was that the Line was the logo of relationship between the body and the planet under our feet and the stars above us. She said, if you extend the Line out, it goes to the far stars. And if you extend it down through the feet, it goes through the center of the earth.

So, it stands as a symbol of relatedness rather than as a thing.

So, if the midline is organized, that is to say if the Line is functioning and if the relationship is functioning, then you're going to see that contralateral movement and the arms swinging with the gait, resting easy with the shoulder girdle. But if you're off the Line, let's say the hips are in front of the Line and the person is leading with their pelvis and they have more of a 'banana posture' then the arms are going to be way back, and they'll end up with the elbows behind the spine. Rolf used to say, think of a human being as an upended quadruped. So, in a quadruped, all four locomotor limbs are in front of the spine and their movement propels the axial complex forward. If a person with this banana posture is walking and has arms hanging behind the spine, then you've got a heck of a job because those legs have to pull rather than push. In that case the spine is not free to be a spine. The other of end of that postural spectrum is when someone is tilted forward at the hip and tends to not come up tall. Those arms tend to swing like a gorilla's; they hang out way out in front and often bind up the neck.

LH: Lets apply your internal/external model looking at these types of patterns, how do you see these patterns express specifically for the arms and hands?

JS: Well, the internal/external model was a revolutionary idea in its time. I want to generalize about it for just a second and then I'll answer your question. When I started to see it, I was asking questions about the legs. How come some people have bow legs, and how come other people have X legs, but when we do the Second Hour of the Recipe, we do the same thing to each type of leg? I remember drawing a little cartoon, sitting in Peter Melchior's dining room. I drew these X legs and O legs, and I said, "Why do you do the same Second Hour to these legs that are completely different?" He looked at me and blinked, and he said, "I'll be damned if I know."

So, that question about the legs and the Recipe was the genesis of the internal/ external model. Thinking about the Recipe as a generalized formula will help guide us, but if you're going to systematically bring these legs more to a place of support, the bow legs have to move medially at the knee, and the X legs have to come lateral at the knee, so that the femurs can actually be in the load line for walking.

The next order of logic was, if that's true for the legs, I wonder what the arms are doing. What I noticed was that, in let's say a pure external, someone who's got X legs, high arches, a relatively straight spine, and a big, lifted ribcage, then the arms end up organized to the back of the body. In an internal, having more high-amplitude curves of the spine, internally rotated legs, and long flexible feet, those arms tend to live with the front of the body – more pectoral and not so much latissimus, you could think. So, in the pure type – which is an uncompensated internal or external – roughly speaking, externals have the arms to the dorsal and internals have the arms to the ventral. All that means is that you get to look at the relationship of the rib cage and the shoulder girdle, and figure out what you have to do to bring the arms into neutral.

LH: And some are rotated, in some arms you're seeing the front surface of the elbow while the client is standing, and in others you can't see that nook of the elbow. There is so much diversity about how arms hang.

JS: Well, imagine that set of arms that's more organized to the dorsal side. Typically, those arms hang with the elbow angle pretty open. Somebody who's organized ventrally, those arms will have a higher carry angle. I began to look at what I called 'traits', like where do your people come from and what are the characteristic shapes that the people from that area have. That is part of what Rolfing SI tries to affect. That ended up being an awareness of how blood-driven characteristics underlie learned postural patterns, either through occupation or through emotional habits. The more current stuff, the learned patterns, is laid on the inherited trait pattern. Sometimes if you want to change the emotional habit pattern, let's say the character expression, or the occupational pattern, you've got to go dig into the 'ancestral' tissue to get the plasticity for it. So, the internal/external model took me down a long road in this particular way.

LH: That is beautifully said. I have this client whose arms hover at least a foot away from the body, and that's when the person is at ease.

JS: It's a male?

LH: Male. He works in heavy-machine operating, front-end loaders, and has multiple trade tickets. Of course, it's a shoulder-girdle issue, but whatever is happening in the shoulder girdle is happening all the way down to the fingertips.

JS: Yep. At one point I noticed that men who carried their arms like that were sometimes off-duty police, and they had developed a way of swinging the arms that would clear the holsters and radios that they wore on their belts. So, when you described this guy as a heavy-equipment operator, my first question would be, does he wear a tool belt, and has the arm pattern developed to clear the tools that he carries? Just a thought.

LH: Very interesting. When you think about our block model of seeing, have you ever thought about how the arm fits into that model? Is the arm its own block? Or, how many segments would you infer onto arm anatomy?

JS: I have to confess that I am not usually seeing with the block model. I got there because Peter Schwind gave a talk about the fact that the density of the blocks is not uniform, that if you look at the viscera in the thorax, you've got the heart off to one side, you've got the lungs, and you've got the heavy liver on the other side. He said, "If you take that block of the thorax, it doesn't actually stack as a homogeneous-density block on the abdomen. And the abdomen is definitely not homogenous, nor is the pelvis." He said, "In this way, the block model is sort of mythic."

Sometimes if you want to change the emotional habit pattern, let's say the character expression, or the occupational pattern, you've got to go dig into the 'ancestral' tissue to get the plasticity for it.

Think about how the brachial plexus comes out of the sides of the middle and lower levels of the neck. The brachial plexus nerves go under the collar bone, through the axilla, and down the arm. This tells us that anytime you're working on someone's neck, you should be including the arms.

Then when I got the internal/external model, and I began to see the rotational stuff, it really superseded the block model for me. It was a better seeing tool. I could spot an internal or an external two blocks away, just by the movement signature of the person coming toward me. Long before I would see their face, I would know the type they were.

LH: It's very functional and clear.

JS: To answer the question then, I'm interested in the arms having mass, in the sense of hanging from the shoulder joint, and I'm interested in how they move. But I don't think of them as a block or as a weight in a static way.

LH: Can you talk a bit about the hand/arm relationship? What are we to do with hands specifically?

JS: Well, here's the smashing news: the hand starts at the elbow. There isn't merely a hand from the wrist down, everything that runs the hand starts at the elbow. Most particularly, the radius allows the hand to pronate and supinate without the humerus moving at all. So, you can put your elbow on your desk and you can turn your hand palm up, palm down. The big end of the radius butts up against the thumb, in support of its power and grip capacity, and the small end is there at the outside of the elbow joint, enabling the hand to orient. This is the 'hand'.

So, when I think about working on *hands* my eye starts at the elbow and looks at the pronators and supinators; how the radius is set and how the bicep fits in between the radius and the ulna to participate in both forearm flexion and rotation of the hand. Anything that's going on in the hand has got to be considered from the elbow down. I have a whole protocol that I do for the forearm and hand, treating them as a function unit. This involves working from these perceptions, and then doing detail work on the flexor tendons in the hand and wrist, which is where people get in trouble.

I've been having some interesting positive effects with Dupuytren's, working on the contractures in the palm, not so forcefully but very systematically, kind of picking at that dense kind of hypertonic and gristly tissue, actually getting blood and lymph moving to rehydrate the contracture.

I've had one client, a weaver, whose hands were just starting to claw up. She both crochets and weaves, high dexterity stuff. Over time, her hands were contracting and the palm tendons were standing up from the plane of the palm. She was losing fine motor control because of this scarification. Over a series of four or fives sessions, her hands regained function. I would give each hand about fifteen minutes out of a session. So, half an hour of an hour session was on the hands and forearms, and the rest of it I did the shoulder girdle, pelvis, legs, and whatever else was needed. As it came back, the functional quality was stunning. It shocked me how willing her hands were to come back.

LH: That is also very interesting, I have a client with hands like that.

JS: Well, imagine I'm sitting at the table's side, and I'm facing headward with my client to my right, then I lace my left-hand fingers into the client's right hand – their right hand and my left hand – then my right-hand thumb gets into those tendons and systematically works. I have an interlocked grip with my left hand, the client's arm extended, and I just get comfortable and start using almost the back of my fingernail to scrape this tendinous, scarified stuff, being systematic and trying to work one layer throughout. Rather than getting a local, big release, I try to clear everything at one depth. The notion is both to encourage circulation and some elasticity. Then I put the person's forearm palm up on the table, and I iron out that ventral forearm, especially around the radial head. First, I open the palm, and then I scour the forearm where the musculotendinous structures originate, remembering that the hand structurally starts at the elbow.

LH: Does everybody get your forearm protocol, or maybe does the occupation of the client influence how much focus you give to the hands and arms?

JS: Think about how the brachial plexus comes out of the sides of the middle and lower levels of the neck. The brachial plexus nerves go under the collar bone, through the axilla, and down the arm. This tells us that anytime you're working on someone's neck, you should be including the arms. So, this comes back to Rolf's original, let's say, benign neglect of the arms. I work on people's arms all of the time. First session. Anytime that I'm going to do anything significant with the neck, I'm all the way down to the palm as part of it, because the whole ventral neck is anatomically connected to the arms. Once you get how these relationships interact, you cannot responsibly work on a neck without working on the arms.

LH: All the way down to the palm.

JS: Yes, what's happening is that as lots of necks are too far forward on the thorax, there are several primary lines of strain. One among them is that you've got to get the arms 'unwrapped' so that they don't bear on the neck so strongly. The other place that people's necks get influenced is through the pelvic floor. That's because the whole ventral visceral compartment ends up in the face. So, my neck work now typically alternates between shoulder girdle, pelvic floor, and then local work on the neck at the articular level and the ligament bed.

LH: Very interesting.

JS: Pelvic floors are problematic because you've got social problems working there. People have metaphoric private lives in their pelvic floors, and some people simply can't tolerate it, or it would feel an intrusion, but for people who would allow it I'll put my elbow on those rami, opening up the core through the pelvic floor, right

up to the face, and then unwrap the arms. The net effect of these diverse approaches is the potential for prevertebral length, from coccyx to jaw and nasopharynx.

LH: Wow. I'm going to pay more attention to that. We've already been talking quite a bit about shoulder girdle, because it does relate to the larger scheme of arms, neck, and thorax, how about the flow we want to see in walking? What's the pattern we want to see with the arms in relation to gait?

JS: The key is the gait; this concept of alignment is not meant to be a static "look how good I look when I'm standing still." It's nice to take photos and to show people how nice their posture is, but the truth is the real event is walking, how we get from place to place. So, the first thing I look for when I watch someone walking, in profile, is whether the femur on the push phase of the gait goes behind the midline. In other words, can the foot pass under the body and go behind to deliver the power stroke? If you watch any sort of random group of people, you'll see that two thirds of them, when they are walking, do not extend the hip. The femur literally stops in the vertical, and then they take the next step.

So, in order for the spine to work correctly, the hip has to extend in the gait, and the foot has to pass under the body. Then the ball of the foot will be the last thing to leave the ground. In that moment, the sternum lifts and moves forward, and gravity pulls the body forward at that point. Good walking is really controlled falling, not a constantly supported Line. The constantly supported Line is an artifact of a way of thinking, that you're carrying the Line along vertically. If you watch somebody walk who's going somewhere, they are leaning forward, and they're falling forward. The walking is actually an economical energetic gait. In that sense then, the arms should be free to swing and carry the momentum of the gait forward. The gait is reach, load bear, push; when the left foot is in the push phase, the right arm is coming forward to carry that fall, to put more momentum into the walking.

LH: I wonder if there's a proprioceptive piece about the hand at that point, that the hand is going forward and is also getting information about the space we're heading into.

JS: Absolutely, has to be. I heard a talk by Hubert Godard years ago at an annual meeting, and he was breaking down proprioception into interoception and exteroception. Interoception was your awareness of how your internal spaces were feeling; exteroception was how we project ourselves into space and how we feel moving into space. When the body is propelling itself easily, we're actually penetrating space a particular way. It's a delightful feeling. Often, you're not so much aware of your interoception when you're in motion; you're going somewhere. If your body's reasonably free of pain and restriction, you're not dwelling on the production of walking. You're actually feeling the process of moving through space. A really well-organized body disappears and that absence of sensation becomes a measure of order.

LH: This is a cool thing to think about. What about hands and feet, they are such similar structures; how do you see the functional connection between hands and feet?

JS: Well, you have to go to neurology, because first off, hand-eye coordination is profound. It enables us to do everything from tiny stitching, to throwing a ball, to any of the things we do that require the hands and eyes to be linked. But the foot and the eye have the same kind of profound linking. You can see it in action.

My example would be if you're watching a soccer game and you see a player running. There's a ball coming across his path on a diagonal that he will intercept. You see the runner shorten his stride in order to get the kicking foot ready when it will cross the trajectory of the ball. The way the player makes these adjustments is a function of training; the player makes connection with the ball by the coordination of sight and leg movement. Or if you're on a hike, and you look ahead and see a root across the trail, naturally you change the length of your gait so that when you get to that root you step over it.

This linking of the eye-brain with the hands and the feet is way deep, primitive stuff. You can't separate them in your understanding of structure. So, I'm constantly going to the soles of the feet and the ankles, also the forearms and the hands, to get integration of bigger movement patterns. I give people instruction to let their eyes go out to the horizon, or just scan while they're walking, to break the habitual fixations of the way they use their eyes as a key to unlocking other kinds of functional patterns in movement. You can't say enough about the role of the eyes in posture and movement.

LH: Agreed. We need to down-regulate the eye dominance so we have more access to the intelligence of hands and feet. If we think about older adults, they will use their eyes to monitor their feet. Of course, safety is paramount, but can we build safety into the proprioception of hands and feet without the eyes?

JS: Well, truth is, when you get older, some of your equilibrium gets difficult. If I'm going to descend a flight of stairs, I'll put my hand on the rail whereas it used to be I would run down stairs, even skipping steps. So, I know that's a balance issue, but all the same, when I go walking, I make sure that my eyes come up and I'm allowing my feet to be in my peripheral vision and my eyes to be more out like twenty or thirty feet in front of me to scan where I'm going to be in ten steps – as opposed to looking right down at the ground and kind of watching my smaller progress. That eye pattern is a habitual thing, and we can retrain people to look further out. What you'll see is their arms start to swing better, their necks lengthen, and they get better organization as they 'fall' into motion.

LH: More ease. When you think about the Ten Series, are there places in the Recipe you would expect arm and hand work to be more prominent?

JS: I spoke to this earlier, which was to say that, for me, anytime I'm preparing to do neck work, I'm looking at what leads to the neck. So, immediately I have to look at the whole shoulder girdle. Is the scapula riding easy on the back? Are the arms dangling in a sense? That's always part of my neck work. Sometimes half of my neck work is literally on the dorsal part of the neck through the trapezius through the extrinsic structures of the neck, before I go down into the scalenes and the splenius, longissimus, and the ligament bed.

In that way, my arm work is distributed throughout the Ten Series. The arms have become an intimate part of every session. Not every session is by the Recipe. When I observe that I'm going to have to get this person's neck better, I know I'll have to be in the arms at least every other time I work with them. "In the arms" doesn't mean an hour in the arms, but attention to the arms, it means probably five minutes per limb. The pay off in system-wide organization is enormous.

LH: Very interesting. In my practice, my youngest clients are small children and my oldest client is in their eighties. Their arms are very different. I am curious about how you change/modify your approach to meet the needs of people with lifespan differences?

JS: Well, for one thing, most young people these days are somewhat involved in sports. It might be tennis or cross-country running, soccer, or football, but in those sports you have very specific arm patterns that are required. When you're looking at someone on the other end of the age spectrum, they're typically not using their arms and hands in sports. They may not be doing that much, unless they're gardening or hobby working in a woodshop. So, the needs are different.

One of the things we could professionally emphasize is the great value of Rolfing SI for older people. You literally take years off of people when you get them moving better, and they will say it. "God, I feel younger." Younger is "I'm moving better." So, what about arms and aging? It's the same story. You want to get those arms so they're not dragging on the neck. You want to get that shoulder girdle so the yoke is resting easy and supported on the rib cage. That literally means better blood and lymph flow in and out of the head.

To digress, the other really critical part of getting a shoulder girdle resting easy is the organization of the upper two ribs, because the upper ribs have the scalenes come down into them. The scalenes are dual functional. In their resting easy, the scalenes participate in turning the head. If somebody's going to look over their shoulder, you can feel it – the scalenes fire to help turn the head. The left side fires, and the head rotates right, or the neck rotates right. The other place the scalenes work is breathing: they're attached to the ribs, and when you have a higher demand for breathing, like if you're briskly walking or even jogging, the scalenes participate by bringing the upper two ribs headward to make more room for the upper lobes of the lungs. So, the scalenes are really interesting in that they are involved in both respiratory and motor kinesiology kinds of activity.

So, to get a shoulder girdle resting easy, you've got to get the scalenes to stand between their two functions. Anybody who's got a chronic obstructive respiratory problem will have the scalenes turned on all the time. They end up with a kind of square look to the shoulder girdle. We can help those people by systematically, carefully, getting the scalenes to tonify and in that sense to become more elastic again. Then you see the shoulder girdle can ride better. You might have to go inside the shoulder girdle to get it to ride better on the outside.

LH: That makes sense.

JS: So, I think we can't ignore the upper ribs, we can't ignore the scalenes. The other key is the three cervical erector group, which is splenius, longissimus, and semispinalis cervicis. All come down and attach around T5, T6 – that is the leverage point to put the head on. It's easy to see in a horse or a quadruped because the support of the head is behind the legs, it is a cantilever in physics. But you bring a human up on their two legs and the cantilever then goes between the shoulder blades. So, if the arms rest easy, in a sense it reveals this lower pole of attachment of the neck and allows you to bring your head on better. There's a whole dance in there; scalenes, longissimus, and splenius, the mid-dorsal attachment of the neck, and the ease of the shoulder girdle, all dance together to produce what we're trying to do, which is somebody who can put their head on.

LH: That's a nice summery.

JS: That is what makes it Rolfing SI. This has been a life study for me.

LH: It is wonderful to hear you speak about it, you've painted so many pictures in my mind, thank you so much for your time and insights, we really appreciate it.

Bibliography

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Jan Sultan currently lives in Manhattan Beach, California, and maintains a full-time practice there. He also travels to Santa Fe, New Mexico to work with his clients there. He teaches advanced Rolfing classes and offers continuing education for structural integrators on a regular basis. In addition to holding a direct lineage to Dr. Ida Rolf, he works to deepen Rolfing SI as it is practiced today. Jan's studies include various aspects of the nature of structure, including craniosacral work, visceral manipulation with Jean-Piere Barral, nerve mobilization in all its variations, and journeys to the sacred spaces.

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