

# **The Rotary Torso Dilemma**

—Trapping Our Minds with Words—

*By Ken Hutchins*

I exist in a proverbial sweet spot. I'm in a limbo between the edge of death or total debility AND a physical crippling that is mostly pain-free and that allows for a minimum of normal mobility. I observe people around me who are just slightly more crippled than me who must use canes or walkers of some kind. I exist on the edge of their debility. I am amazed that I do not yet have a cancer, am not blind, have not had any amputations, and am not on kidney dialysis three days per week. Although I have incurred two bad falls, I escaped the scary experiences unscathed.

Since I last was discharged from the hospital in 2020, I have enjoyed perfectly restful sleep each night for 6-9 hours that ends with a horrendous but short nightmare. Then I become extremely alert and lie in bed for an hour or so with my mind racing with fruitful ideas about exercise that I often have inadequate words to express. I have no idea why the brainstorming is restricted to exercise.

I am grateful to be as crippled as I am and NOT be in some state of sleep deprivation—as I was when in the hospital. And I am grateful to have a fertile mind, although there are exceptional nights that the extreme alertness persists most of the night to the detriment of my sleep requirements.

Obviously, I am not in complete control of this rush of ideas. I am somewhat of a passive passenger. They are unique and fresh and would be greatly welcomed if I could only write them as fast as they occur and if I had enough years in my life to disseminate them into every crook and cranny of human endeavor.

When the rush comes, I do not feel especially gifted or intelligent. A better descriptor might be that I am a momentary victim of a raging current that I cannot escape without deliberate effort. I'm

propelled almost without my consent. And just as I had finished the second volume of *The Renaissance of Exercise* and for several subsequent weeks had believed that I really would never have anything more to say on the matter, here comes another little germ, then another, then another.

It's not exactly like I want refuge from this. It is indeed a windfall of sorts. However, it is frustrating on many levels. I am fully accepting and comfortable that I may only have a few more weeks to live. But this throws me into a panic to get the information from my head to my words on paper in an intelligible way. And this process demands patience within the panic.

How do I manage this information? How do I verbalize it? How do I organize it? On what criteria do I dismiss parts of it as insignificant musing or important insight?

And if I manage to write something intelligible on a subject, how do I share it? Is it to be a book? Is it to be part of another new book or added to an existing one? Is it to be a standalone article as I expect this piece to be?

True: Every writer must weigh his ideas for worthiness and practical dissemination. But the first step is to have anything to say at all. And I have certainly experienced parts of my life wherein I was pushed to write when I had little or nothing to write about.

Some of you know that I was the ghost editor for *Athletic Journal* for a while when Nautilus first acquired it. Its chief editor complained that I nixed so many article submissions on exercise that the magazine had become little more than a bound pack of advertisements with a few articles on Xs and Os by football strategists. So this chief editor pushed me hard for articles on exercise to fill the void. And at the same time, the editor of *Nautilus Magazine* pushed me to write more articles for it. I politely rebelled with, "I can't vomit articles."

I was certainly flattered to be in such demand, but I did not have fresh material except occasionally and then that fresh material was often too arcane for the readership. I often handed off my rough scribblings to Ellington Darden, PhD to use in the off chance he had use for them and if they could be tailored for his audience.

Until recently, I only remembered writing one article, *The Genetic Gamble* for *Nautilus Magazine*. And I actually wrote it when in the Air Force and before joining Nautilus. Then about six months ago, Brenda showed me issues wherein I had contributed a question-and-answer column for a while. I do not remember writing these contributions. Of course, all of this occurred before the development of SuperSlow protocol and philosophy, as once we moved to Gainesville to start the Nautilus Osteoporosis Research Project, I left my editorial duties behind in Nautilus Lake Helen.

But before I can get to the point of complaining about all the aspects of what to do with my new information, I must sort it for myself. And this is often extremely difficult for me.

My thoughts are actually filtered and culled by the limitation of my words. And then they expand as writing propels more derivation.

I have what I believe is an extensive vocabulary along some veins, but it is often inadequate to provide what I require to easily and fluently express some novel concepts. So my concepts are imprisoned—at least momentarily—by my limited vocabulary and by my ability to arrange the words. And this is good to an extent, as Richard Mitchell I believe would have agreed, as only through writing does rigorous examination of an idea occur.

But there is yet another level of intellectual imprisonment that affects conceptualizing. Although a *dearth of words* is one kind of imprisonment of ideas, the *existence of words* around a faulty concept can protect it from prying minds. Words that have been long accepted to represent concepts can serve as walls that must be breached when the concepts require revision.

Moreover, classical terms that have stood the test of time and the usage by many mindful thinkers become almost invisible, hidden. This is where we find ourselves with *torso rotation*.

We hear and read of *torso rotation* or *trunk rotation*. I and many others have designed and built so-called *Rotary Torso* machines which, in a sense, become a substantial physical manifestation of the term and concept. The muscle function tables are replete with the explanations of *trunk rotation*. I employed this nomenclature in many of my writings. Gus Diamantopoulos and I have collaborated on the most detailed instructional scripts (not yet published) ever composed for so-called *trunk rotation exercise*. And now I know that the term is incorrect. And now I panic that I must go back and rewrite much of my work to correct this. Ha! I don't see this happening...

Of course, who will ever know that the *rotation* terminology is incorrect?... unless, of course, I tell you in this article. And now that I know and that you know, who else will know?

There are engineers and kinesiologists who are aware of the misuse of *rotary*, but I see that they often use the term interchangeably with *torsion*. And although I do not know of others' discernment of these distinctions as they particularly regard truncal function, they might exist.

Perhaps this is an example of calling it by an incorrect name leading to incorrect conclusions *a la* Richard Mitchell's axiom, "The first step to solving any problem is calling it by its correct name." I don't know. Perhaps there is no harm done here other than an opening for Ken to bore you to tears with some of his recent head noise.

I'm hesitant to proclaim that there is no such thing as *torso rotation*, but such a statement is close to correct. And such a statement is dependent upon how we reference *rotation of the*

*torso*. We must reference this rotation with respect to something outside of the torso. Merely saying that the torso rotation is in the horizontal plane is inadequate.

And it is necessary to state exactly what we mean by *torso*. The torso is that part of the body other than the extremities, including the head as an extremity. Therefore, torso rotation includes a rotation of ALL of the body that excludes the extremities. Torso rotation DOES NOT occur if only part of the torso rotates with respect to the reference, whatever the reference is deemed to be.

To satisfy *torso rotation*, the entire torso must rotate in unison, en masse: NOT the upper part in one direction and the lower part in another direction. I term this the *totality requirement*.

So, in order to satisfy the “with respect to” requirement and to satisfy the totality requirement (as well as *in the horizontal plane* descriptor), I can see only two possible, but highly improbable, ways that torso rotation might occur.

The **first** is to suspend the subject by his head. (Needless to say, this is a thought experiment. DON’T actually do this!) With his head fixed, he will rotate his torso to the right if he attempts to rotate his head to the left. Vice versa is also true. Of course, his entire body inferior to his head will rotate. His ROM can actually be measured with the arc proscribed by his toes IF NO TORSO TORSION OCCURS.

So in this first example, the torso rotates in totality with respect to his fixed head.

**Second**, the subject’s feet are fixed in neutral position as he stands and attempts to rotate his pelvis in the horizontal plane with the slight articulation of his knees, hips, and ankles. In so doing, the totality is achieved with the unison movement of both pelvic and shoulder girdles. And IF NO TORSO TORSION AND NO HEAD ROTATION occurs, the ROM of torso rotation can be measured by

the arc proscribed by the nose. [Note my careful usage of *torsion* and *rotation*. They are distinct... not the same.]

In my past writings, I have struggled to find a word to describe what was occurring with the rotation of a rod or bone along its longitudinal axis such that one end is rotated against the fixed position of the opposite end OR counter to the rotation of the opposite end. I dealt with this when describing the force pulses delivered to the humeri of the Turkeys in the research of Lance Lanyon, PhD. The technical term is *torsion* and it can serve as a noun or a verb. A better word for most people is *twist*.

[I find no reference listing *torsion* as a verb in some of the on-line dictionaries or in any of my hardcopy references, although one mentions *torsion* as an act, hence implying action, hence the probability of a verb form.

Apparently, *tort* is also derived from *torquere*, but it is now a legal term.

Some of my hard-copy dictionaries state *torsion* as “a process or a condition” and state that it is derived from the Latin verb, *torquere*, meaning *to twist*. Nevertheless, we should elect to use *torsion* as a verb when needed.]

*Twist* or *torsion* best serve us to describe what the trunk does when the shoulder girdle and pelvic girdle rotate against one another.

We might want to use *trunk torsion* (rather than *torso torsion*) to parallel better with *trunk extension*... also *trunk* carries one less syllable. However, I believe, as do several of my editors, that the best term is *trunk twist* and its derivatives—*trunk twisting*, *Trunk Twist machine*, etc. [I remain concerned that *twist* will be interpreted to be a fast action. I suppose that this assumption can be associated with any command.]

Note that if I instruct a subject to *rotate* the movement arm of a

Trunk Twist machine, it is correct with respect to the machine, but this also encourages externalizing! Please ruminate on this assertion as you compare it to the next assertion.

Instead, the proper verbiage to promote internalizing is to instruct the subject to *twist the trunk*. And to perform *twist the trunk*, he must exert with his pelvic girdle as much as he exerts oppositely with his shoulder girdle in an isolatory manner... not thinking of rotation with respect to an outside reference.

Perhaps something useful will come of these insights. One never knows where new knowledge will lead.