



PantherFlow LEARNING

**Why does my horse  
STRUGGLE?**

# Why does my horse struggle?

Second Edition

(version 3.0)

*PantherFlow Learning*

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## Legal Stuff

The information in this book is meant to supplement, not replace, proper training and conditioning for you and your horse, and is not meant to substitute for the advice provided by your own veterinarian or other biomechanics professionals. All horses can be dangerous and unpredictable, and all equestrian pursuits are inherently dangerous for humans. The authors advise readers to take full responsibility for their safety and know their limits. Before practicing anything described in this book, be sure that your horse is physically and mentally healthy, and do not take risks beyond your — or your horse's — level of experience, aptitude, training, and comfort level. We make no warranties of any kind with respect to the contents of this book.

Bottom line: horses are dangerous, and working with them is risky. Despite our best intentions, we cannot claim that following any advice in this book will keep you or your horse safe.



**Prerequisite:**

*Always check with your health professionals first!* Everything in this eBook assumes your veterinarian and other equine medical experts have **not** found a **structural** reason for the horse's resistance to certain movements.



***NOTE to readers:***

You might see a few words and concepts in this book that you are **NOT** familiar with. ***Relax.*** It's no big deal whether you know the definitions of ***everything*** here.

By the end of this book, you ***will*** know what matters ***most*** to your horse, and what you can do to help.

*Imagine yourself dreaming.*

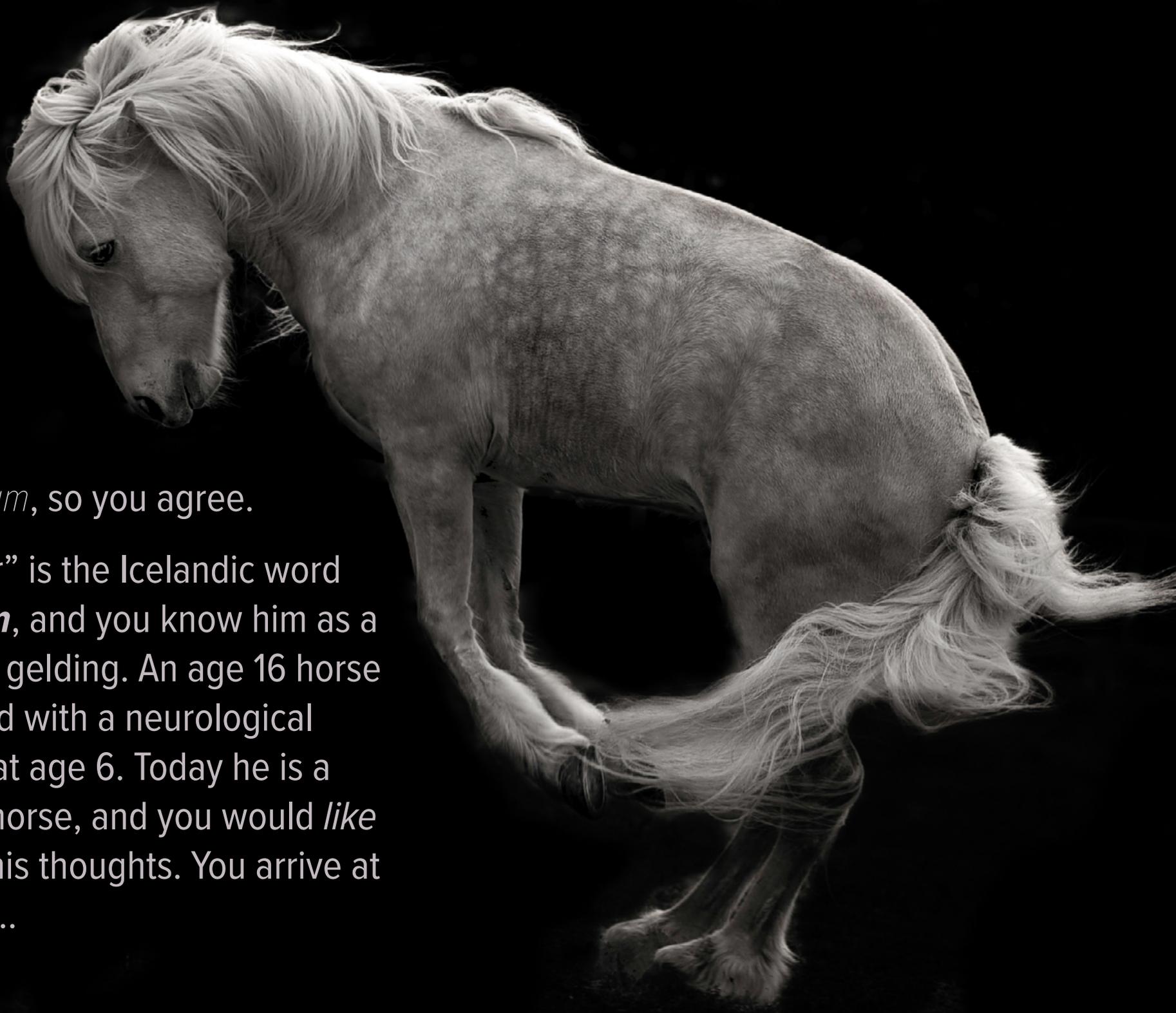
*In the dream, you hear footsteps  
outside your door.*

*You open the door to find  
an envelope.*

*In the envelope, you  
find an invitation.*



You're invited to  
Dinner with  
Draumar



It's a *dream*, so you agree.

“Draumur” is the Icelandic word for ***dream***, and you know him as a palomino gelding. An age 16 horse diagnosed with a neurological disorder at age 6. Today he is a **vibrant** horse, and you would *like* to know his thoughts. You arrive at the party...

But you discover the “dinner” is ***not*** with *Draumur*... it is with Draumur’s ***nervous system***.

## **Draumur’s nervous system is in charge**

You sit for a discussion with Draumur’s ***nervous system***.

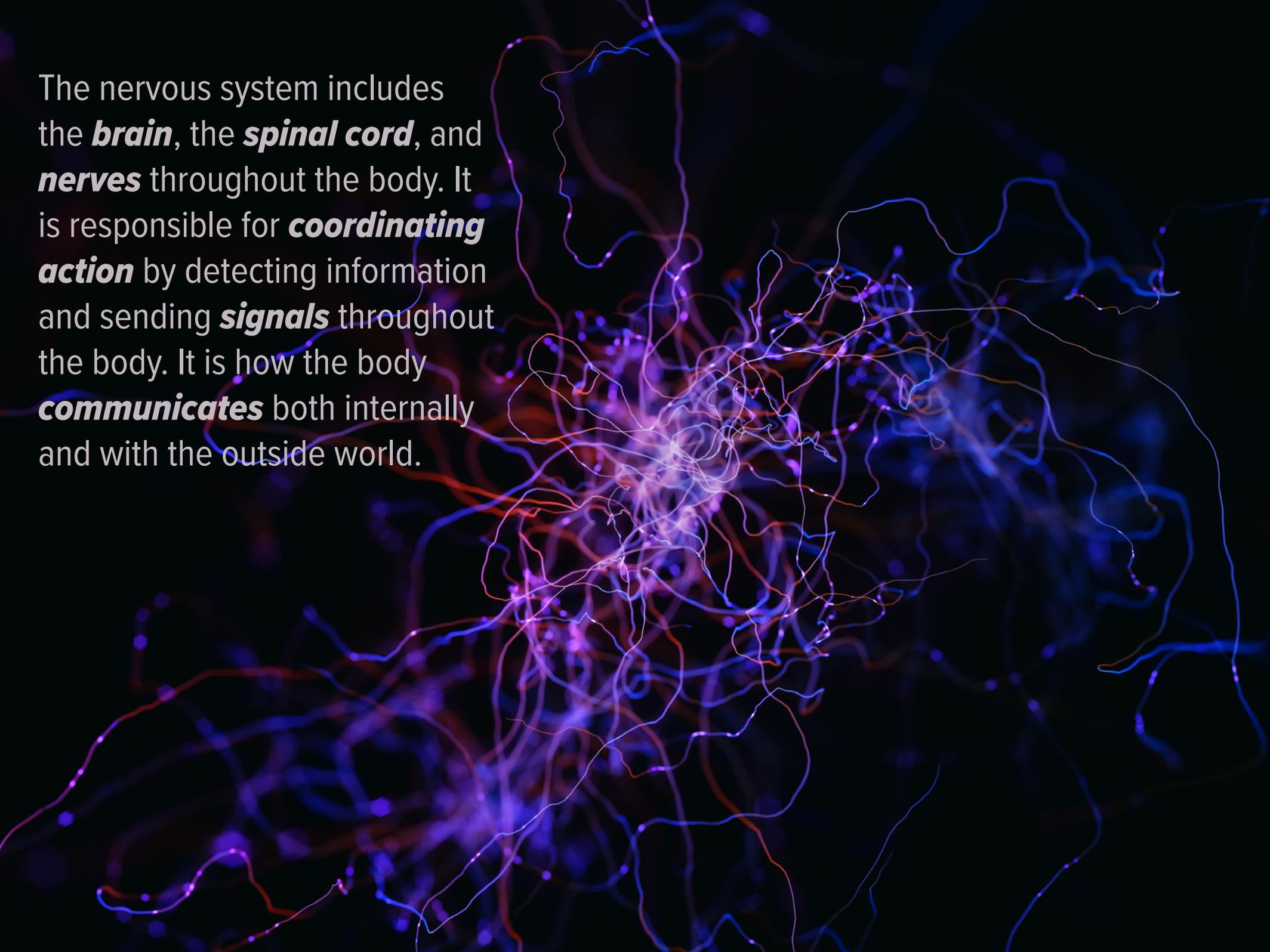
*(It’s a dream, so it still makes sense.)*

Turns out, ***his nervous system has a lot to say***.

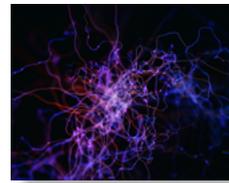
You were *hoping* to talk with Draumur about his movements, but his ***nervous system*** runs the show.



The nervous system includes the **brain**, the **spinal cord**, and **nerves** throughout the body. It is responsible for **coordinating action** by detecting information and sending **signals** throughout the body. It is how the body **communicates** both internally and with the outside world.



Dinner Guest:



Draumur's *nervous system*:

Why am I talking to *YOU*?

I am in charge of **everything** the horse perceives and does. What do you *really* want to know about *your* horse's nervous system?

***Why do you keep resisting?***

Why the struggle, when I'm trying to do what's best for the horse? His movements are NOT healthy, so I—

WHOA let me stop you right there! Do you think *you* know *more* than *me*—the horse's nervous system—about “healthy” movement?

Obviously, yes. Because YOU let the horse move stiff, bracey, crooked, not taking weight on that one hind leg, not taking that lead—

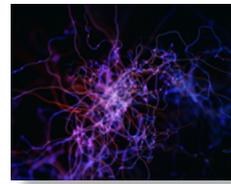
***You are missing my point.***

Dinner Guest:

What am I missing?  
What could **possibly** be the point of **not** correcting faulty movements?

How could **stiffness** and **crookedness** and **weakness** be something you **want**?

Then **why do you resist** when I try to **supple** and **straighten** him?



Draumur's **nervous system**:

Those movements YOU call “incorrect”? They’re coming from **me**. The nervous system. The REAL question is NOT why am **I** fighting against **YOU**, but why are **YOU** fighting against **ME**?

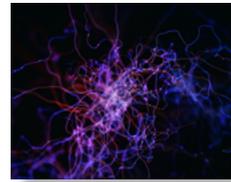
I don't **want** the horse to be stiff and crooked. **I want him to be functional.**

**I resist because the horse does NOT have joint integrity for what you're asking! I use stiffness and bracing to protect the horse.**

Dinner Guest:

That... that makes no sense.

Crooked and stiff movement is harmful. How can you **want** that?!



Draumur's *nervous system*:

Think of stiffness and bracing as a **secondary stabilizer** for when the *primary* stabilizers are not doing enough. *Or if I'm not SURE*. Bracing is one of my *best* options to protect the horse, but *you* keep *fighting* me.

I did NOT say I *want* that. As a *human* athlete *you* don't *want* to wear a brace or cast. But when you *do*, there is a reason. The brace is there because to NOT be "braced and stiff" would be too much **risk**. If I think the body lacks joint integrity for a certain movement, *I do what I must to protect it*.

A close-up photograph of a person's knee being braced. The brace is blue neoprene with a circular opening over the knee joint and a black strap across the lower thigh. A person's hands are visible adjusting the brace. The background is a blurred gym floor.

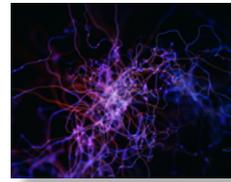
The nervous system uses stiffness and bracing to help stabilize the body in movement. *It is a protection.* But the **location** of the **brace** does NOT reflect the location of the **problem**. The nervous system might use stiffness in *one* area to help stabilize a completely *different* part of the body.

***Stiffness and bracing is always there for a reason!***

*(Though we might never know the reason.)*

*Dinner Guest:*

But what if I **can** get the horse to stop resisting and bracing, and it turns out he **can** bend and supple there, so...the horse **can** do it... what if he just **does not want to**?



*Draumur's nervous system:*

You're *partly* right. I never said the horse **couldn't** bend there... I said **I do not want him to in this exact situation**. But sure, if you "make" the horse give up a brace, I'll let it go... but I **WILL** replace it with something else that you might not see immediately. Stiffness is only *one* of many tools I can use. But... if you *do* make me remove a brace, **KNOW THIS:**

***I WILL use something else to protect the horse.*** My job as Chief Protector means I have a big toolbox of protections. If you take away bracing, I can throw in some ***pain*** or I can instantly make some other body part ***weaker***.

Dinner Guest:

You're saying you make the horse have **pain for no reason?!**

Draumur's *nervous system*:

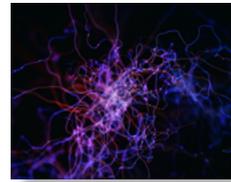
Of course not. I'm not a *monster*. **There is *always* a reason.** But *you* might never *know* the reason. "It's complicated." I don't *like* using pain. It's not my *favorite* option with horses because I'm ALSO working to help them *hide* pain so predators won't see them as vulnerable.

My go-to protections are usually ***stiffness, crookedness, fatigue, fear, and asymmetrical weakness.*** These work well for getting the horse to *avoid* doing movements in a risky way. But *you* keep trying to override my protections! ;(

*Dinner Guest:*

But pain means damage. It's not something you "make up"...

Still didn't answer the question...  
Why do you think **healthier correct movement is risky?** Why stop the horse from doing the **better** movement?!



*Draumur's nervous system:*

Oh, lol, if I had a carrot for every time somebody said that pain equals damage. But it's just... not... **true**.

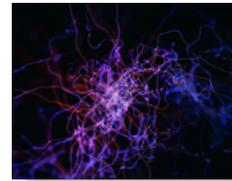
Pain is NOT a signal **from** the tissues **to** the brain, **it's a signal from the brain** when the brain **decides** that something is risky. And on behalf of brains everywhere, we do the **best** we can **given the information** we have at the time!

Finally! The heart of the problem!

Dinner Guest:

I'm listening...

Nice dramatic little speech there.  
<slow clap> But you didn't answer the question. *Why do you stop better movement?!*

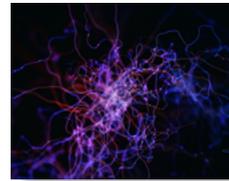


Draumur's *nervous system*:

The problem is the **gap** between what **YOU** think is “healthier/better” for the horse and what **I** think is better for the horse. As long as we disagree, **I will never give up the struggle**. It is my ONE JOB and I am, frankly, awesome at it.

If you force me to give up *this* brace, I'll put up *another* brace somewhere else. If you force the horse to “work” through stiffness or pain, I will make the pain *worse*. Or move it... Or I will make the horse *weaker*. Or *tired*. Or *lame*. *I'll do whatever it takes*. You fight with me, you are in for a never-ending battle. ***I will literally defend this horse TO THE DEATH.***

Dinner Guest:



Draumur's *nervous system*:

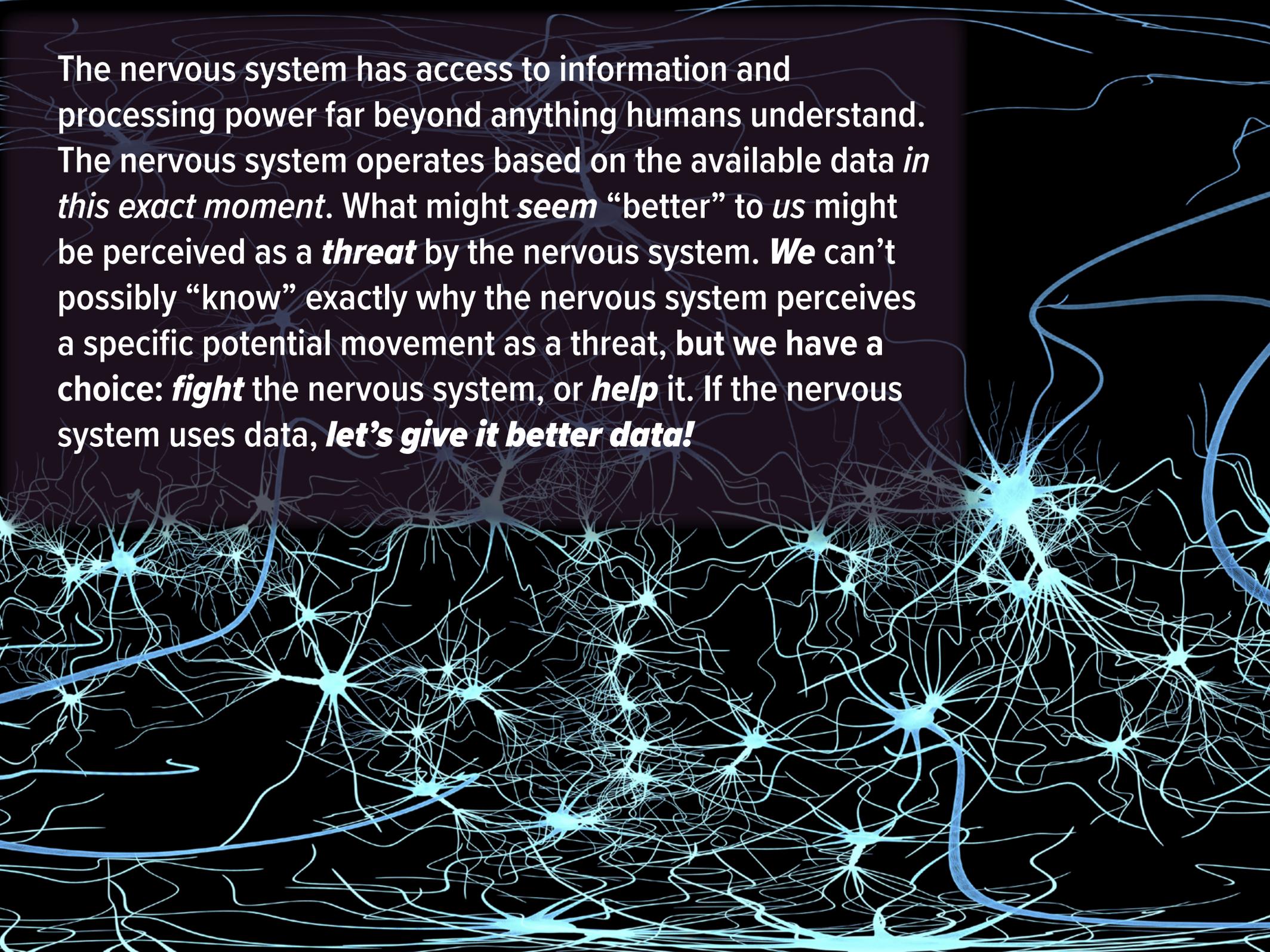
***Because I know things you don't.  
I'm the nervous system ffs.***

And DO NOT get me started on you humans with your reductionist view of biomechanics. All *mechanics*, none of the *bio*. You've seen the hilarious YouTube robot FAIL videos. Hah! You humans can't POSSIBLY know what *I* —the nervous system — know about movement!



You seem kinda defensive...

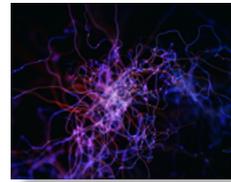
I know, right? Sorry, mate. :)



The nervous system has access to information and processing power far beyond anything humans understand. The nervous system operates based on the available data *in this exact moment*. What might seem “better” to *us* might be perceived as a **threat** by the nervous system. **We** can’t possibly “know” exactly why the nervous system perceives a specific potential movement as a threat, but we have a choice: **fight** the nervous system, or **help** it. If the nervous system uses data, **let’s give it better data!**

Dinner Guest:

But don't *you* feel better if I help the horse find a *better* movement?



Draumur's *nervous system*:

***You need to let that go.*** Seriously... ***you*** are NOT able to always *know* exactly what ***is*** “better” in this moment. ***You think you do, if you focus only on output biomechanics, but you DO NOT KNOW all that is happening internally.*** Movement is complex. What *you* see biomechanically is “motor ***output***”... the *result*. What you do NOT see, ***but what matters the most,*** is HOW that movement was generated. There are near-infinite ways in which a movement that ***looks*** the same from the ***outside*** happens in a completely different ***inside***. Precisely ***how*** that movement pattern emerged... what fired, when, etc. ***you*** can't know!



***“It’s dangerous to make judgements about movement just by looking at outside posture. Need to look inside and take context into account.”***

– Dr. Robert Gray, Arizona State University  
Research Scientist, Engineering and Psychology  
(Focus on perceptual-motor control)



***“The brain will create a mobility problem because it is the only option you have left it.”***

– Gray Cook, Physical Therapist  
Board Certified Orthopedic Specialist  
Founder of Functional Movement Systems  
Author, ***“Movement”***



Movement we can see (and measure) is motor ***output***.

Sensory perception and/or processing to *generate* a movement is motor ***input***.

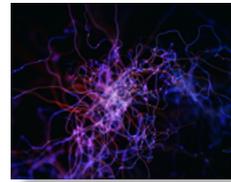
Any given motor *output* (a movement we see) might have emerged internally in a near-infinite number of ways.

Most traditional training is focused on creating a specific motor output—a *movement result*—with almost no focus for *how* that movement emerged from the nervous system in this context. Most physical training is focused on *tissue physiology* (muscle strength, flexibility) when what often matters more happens at the *neural* level: *timing, coordination, firing patterns, activation, variability*.

Just because a motor ***output*** looks “correct” does *not* make it safe or healthy.

*Dinner Guest:*

But I **STILL** do not see why helping the horse find more suppleness and straightness is **NOT** the way to help **you** work better or feel better...



*Draumur's nervous system:*

***Because you are still focused on symptoms***, instead of the ***reason*** for those symptoms. If you *do* treat the symptoms — you “work through” the stiffness/brace (the brace I put on for a damn good reason)... let’s say you *do* “help” the horse take more weight on that hind leg that I keep *trying* to stop him from using... ***what have you actually “fixed”?***

You have **NOT** fixed the reason for the symptoms of stiffness/resistance!

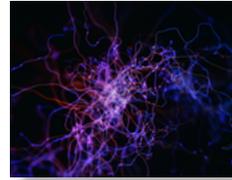
The horse *appears* to move better— his motor output “looks good”— but the horse could now be at *more* risk for injury in turnouts and work.



If we *correct* a body part that feels “stiffer” or “weaker”, we are treating only a ***symptom***. We want to address ***the reason*** for the stiffness or weakness...

Dinner Guest:

But let's say I do "fix" the "symptoms" and the horse actually *is* now supple and straight and moves well. How is that **not** the best answer?



Draumur's *nervous system*:

***Have you forgotten your original question to me?***

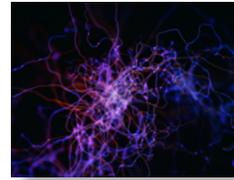
You asked why I'm "fighting" you.  
***Your horse IS struggling.***

***If you did solve your horse's problems by "fixing" the symptoms, we would not be having this conversation.***

Treating symptoms ***does not solve the underlying motor input/learning/control*** problems no matter how "good" or "correct" the ***motor output*** looks.

*Dinner Guest:*

But what of the zillions of horses doing good classical work, and when they do the good suppling and strengthening exercises it works? They DO start moving better...

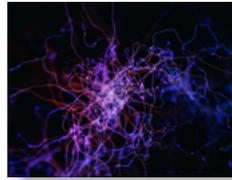


*Draumur's nervous system:*

The “suppling/strengthening” exercises like shoulder-in are great *tests* and they *can* sometimes help build muscle *strength* and *flexibility*. But it won't stop the struggle *unless the horse's problem actually IS a tissue flexibility or tissue strength problem*. Because then it's just exercise physiology. If it really *is* just a “tissues” problem, progress begins almost overnight. The horse quickly stops resisting, starts bending and stepping under, *without struggle*. BUT if after a few weeks of these exercises the horse *persists and struggles* with “tightness” and “horse won't step under”, then it means *flexibility and strength are NOT the real problem*.

Dinner Guest:

But... when I *do* work on correct shoulder-in, my horse **does** get stronger. You can **see** and **feel** bigger muscles!



Draumur's *nervous system*:

I repeat: shoulder-in **can** be a *strengthening* exercise. The question is NOT whether shoulder-in **can** build strength. It *can*.  
**The real question is whether a “weaker leg” is actually the horse’s *real* problem!**

No matter how *well* or how *much* you do these exercises, the horse will still struggle if ***I do not want him to USE the strength he already has because of OTHER issues I’m worried about that are usually in a DIFFERENT body part than the one that appears “weak”!***

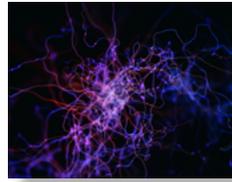
Slow progress *despite* “good work” is a huge clue that the horse does NOT have a “weaker hind leg” problem but *instead* he has a “*nervous system does not want him to use his strength there*” problem.

We *think* the horse horse  
struggles with *the human*,  
but the horse is in an  
epic battle with *himself*.  
He *wants* to do what  
the human asks, but his  
nervous system says  
**“NO! DANGER!”**



Dinner Guest:

But then what am I supposed to DO?  
What am I doing wrong?



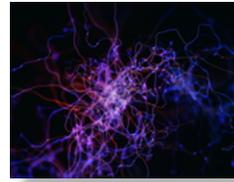
Draumur's *nervous system*:

It's not you... it's **me**. No, seriously, IT IS ME. *I'm* blocking the horse's progress in some of these activities. I don't care if you do a billion shoulder-ins with *perfect* technical execution. If I feel the horse still lacks joint integrity somewhere, **I will keep protecting him**. I will *first* try to stop the horse from *doing* that exercise, but if *that* doesn't work, I'll make sure you can't *use* all of the strength the horse *does* have. I can *also* physiologically stop the exercise from actually working... so the horse's tissues won't fully benefit, the horse won't adapt and get stronger.

But ... *eventually* if you keep pushing I might have to give up and allow *that* movement, but I'll then start compensating somewhere else...

Dinner Guest:

Didn't answer the question. WHAT AM I SUPPOSED TO DO!?



Draumur's *nervous system*:

Relax. Breathe. Chill. If *you're* too tense about this, I'll take that as even **more** of a threat and I'll try to get the horse to resist you harder.

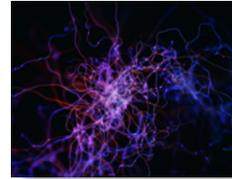
But there IS an answer: **make ME happy**. Think of me like the horse's angel/protector/attorney/parent/agent... you **MUST** go through me. If **I'm** not happy, **nobody** gets to be happy.

But if you work *with* me, we can help this horse have **beautiful** superpowers.

But if you work **against** me, your struggle will never end. It will *change*, but it will never end. I will **never** stop protecting the horse!

*Dinner Guest:*

**FINE!** What is it that you **WANT**? How do I make you happy? If it is **NOT** about helping the horse have better movement, **WHAT IS IT?!**



*Draumur's nervous system:*

***Hold on. It IS about helping the horse find better movement.*** That ***IS*** the goal.

The problem is that *you and I disagree on what “better” means, and we strongly disagree on how to “help” the horse find this so-called “better.”*

We have to work *together*. We are on the same team here! If you give me the information and tools I need to feel confident in the horse's ability to move, I can make the work you do be effective, successful, and *fun* for the horse.

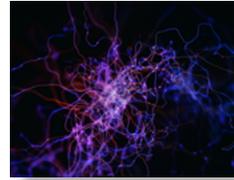
**We can do this. We got this. Together.**

#wegotthis



Dinner Guest:

Pretend I believe you... what *would* I need to give you? What are the “tools” and “information” you need?



Draumur's *nervous system*:

*Great question!*

*I need to know these things:*

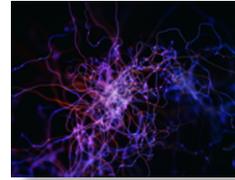
1. What *is* the horse doing at every moment? I need current, high-resolution **proprioceptive sensory data** from all parts of the horse.
2. What *can* the horse do in this moment? I need current, high-resolution data (previously stored) about what this horse actually CAN (safely) do.
3. What is the movement **goal** of this activity? What movement function is needed in this moment? *I need a meaningful movement purpose.*

The nervous system must know exactly what the horse is *doing*, exactly what the horse is *capable* of, and exactly what is the *movement purpose*.



Dinner Guest:

How can *I* possibly help *you* know **more** about the horse's current and possible movement?



Draumur's *nervous system*:

### ***Start with proprioception data!***

The proprioception mechanoreceptors throughout the horse's body send me signals. ***These are the messages I MUST have.*** If some of the signals are missing, it's like trying to stream video with a bad internet connection, signal keeps going out, the whole image is blocky and blurry. I need precision, clarity, and LOTS AND LOTS of data.

Poor/fuzzy/missing data is ***why*** I resist. This is why I fight. I don't have high enough ***confidence*** in what the horse ***is*** doing or what the horse ***can*** do. I don't have enough good data. ***If I can't be SURE, I say "NO".***



Think of proprioception data as a television signal. Draumur's nervous system wants a hi-res, 4K sharp, detailed image.

**The nervous system wants to “see” the details.**

If body parts are not sending enough data, or the body has not moved in a particular way for some time, the image becomes... *pixelated*.

**When the proprioceptive data is low-resolution, the nervous system can't trust the body.**

When the data is fuzzy or missing, the nervous system cannot guarantee a movement is safe. It tries to *protect* the body by making the movement harder, painful, or impossible. The body *might* be capable, but the brain doesn't have enough data to allow it!

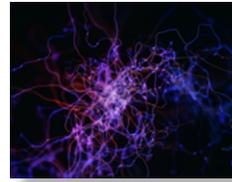




The nervous system builds and maintains a “body map” of *all* movements the horse is currently **capable** of doing, including degree of **control** the horse has for each movement possibility. The map is constantly **updated**, but if new data stops coming in for any area of the body, the map becomes *fuzzy* and the brain cannot guarantee safety of any movement that could effect or **depend** on that area. If the horse has areas that are overly tense or locked or have NOT been used for some time, the brain no longer **KNOWS** that the horse **can** use that part of the body safely in a specific, independent way.

Dinner Guest:

And the way to give you that higher-resolution “signal” is....?



Draumur's *nervous system*:

**Easy :)**

**More movement in more places in the body.** Start with skin receptors. *Touch, touch, touch.* That helps me know exactly where everything IS, but you need to do it a lot. Can be super light touch. Don't touch in just one area, instead stroke as though you were brushing off dust with your hand.

Pro tip: I usually have much more data about the *front-end* than about the *hindquarters*. I can usually use the horse's *eyes* to help *see* where the front legs are. But the data is much weaker for the hind legs...

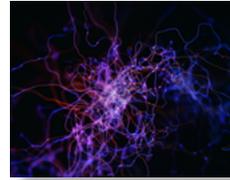
**Activating proprioception receptors in the skin through touch is a quick, easy way to give the horse's nervous system useful sensory input.**



What matters **most** are proprioception receptors **in** the body: joints, tendons, muscles. Those receptors send data to the nervous system on **what** the horse **is** doing AND into the brain's "**body map**" of movements the horse **can** do. This "map" plays a huge role in whether the nervous system "approves" a movement.



Dinner Guest:



Draumur's *nervous system*:

**Best thing you can do for me:**

Give the horse many new possibilities for novel movement! Movements the horse has *not* been doing much lately. Unusual moves. Range of motion! Surprise me! This will help restore the map.

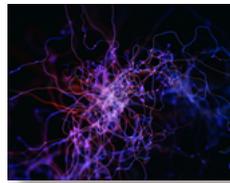
Because even if a horse *is* capable of a movement, if he has not done it for some time, ***how would I know he still can??***

But... why would you let the horse do ***these*** “novel” movements he needs when you’re already preventing some of the most basic movements???

Hmmmm. That *does* seem like a paradox; I won't ***allow*** the horse to do unusual movements until he proves he ***can***, but how can he prove it if I keep fighting him and won't allow him to do it? ***Is that what you're wondering?***

Dinner Guest:

Exactly. Chicken and egg problem. How do I help convince you that a movement is possible when you keep trying to stop it?



Draumur's *nervous system*:

***Yay! We're at the fun part now!***

Time for you to get creative. And enlist nature as your ally. Because that IS your big challenge: **get the horse to do a greater variety of movements, especially movement I have NOT seen/felt him do for a while, and especially with greater range of motion.**

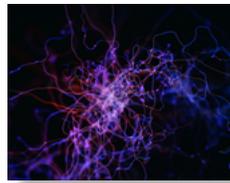
The trick is for you to find movements that I WILL allow. Movements I have not seen/felt this horse do for a while ***but that I'm still willing to let him do.*** The absolute easiest/best way to do THAT is to give the horse an ***authentic movement purpose*** that the horse does 100% on his own. It MUST be voluntary. If any part of the movement is coerced, "instructed", forced in any way, OR the horse does not understand the movement purpose, then it's not useful for me. But if you can get the horse ***exploring*** movements somehow...

**Novel movements, especially at or near the ends of a horse's normal range of motion, send rich proprioceptive data to the horse's brain, and help the nervous system feel more confident about what the horse is capable of doing.**



Dinner Guest:

Wait... it has to be 100%  
“on his own”?



Draumur's *nervous system*:

To rebuild a better body map, the movements **MUST** be 100% voluntary and 100% self-organized by the horse with **NO** force, **NO** “micro-shaping”, **NO** telling the body *how*.

If you cue the horse to move his leg *that* way and his neck *this* way, etc. ***that does NOT give me better data***. All I learn from that is that the horse ***can*** move that way ***if directed***, but **NOT** that the horse is capable of ***automatically*** moving that way if needed in an emergency!

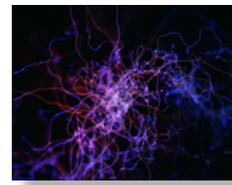
I need to know what the horse is capable of generating ***as his own solution to a movement problem***.

The nervous system wants to know what the body is capable of *without* manipulation. If the body is *instructed* or *moved* into a position, even if it's a “good” position, this does *not* tell the nervous system what the body would do on its own.

***The body is not a puppet.*** To be safely controlled, ***movements must be self-generated by the movement system.*** If a movement is manipulated externally, the body does not “own” that movement. The nervous system needs to know what the body would do automatically in an unpredictable situation.



Dinner Guest:



Draumur's *nervous system*:

Stating the obvious here but, aren't **you** in charge of “what the horse is capable of generating?”

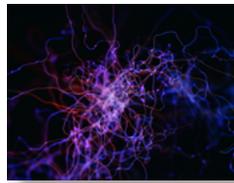
I understand why it won't help to use *force* when the horse resists, because it means ***you're blocking it or compensating*** so it's not “useful” data for you. But what's wrong with simply *guiding* or *cueing* the horse into “novel” movements that he/you/whatever do NOT resist? How is this NOT useful data if I ask for something the horse ***can*** do?

Can I just say “it's complicated” and leave it at that?

OK ***fine***. I *might* have exaggerated when I said *I* control everything. I'm *not* like a machine with a central computer. There are many different systems within the body, and while I'm the most important, other parts of the body have a “mind of their own”.

*which means...*

Dinner Guest:



Draumur's *nervous system*:

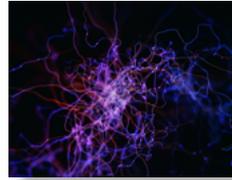
**Only self-organized movements tell me what the horse is capable of in an automatic response.**

If you hold the horse's leg and pull it into a stretch (called "passive stretching") **that tells me nothing useful**, because **I don't really care** what the tissues are passively capable of. What *matters* to me is movement the horse can *control*. That's the definition of **mobility: movement the horse can generate under control**. *Flexibility* is not what I need. Bigger range of motion is only safe **if the horse can generate and control it**.

Now... what if you "*direct*" the horse exactly *how* to do something **but** he still executes the movement himself *without physical manipulation from you*? Those are good, safe movements probably, so *do* them. **But use them for exercises, NOT for giving me new data**. If you "tell" the horse *how* to move his body parts, **it does NOT generate the same information as if the horse solves the movement problem for himself**.

Dinner Guest:

You didn't answer the question. WHY is it different? Isn't it sending the same proprioception data, triggering the same mechanoreceptors no matter who "decided" to move that leg, as long as it is done without force?



Draumur's *nervous system*:

***Only self-organized movements tell me what the horse is TRULY capable of.***

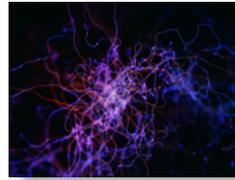
***It's crucial that you get this:***

***Every movement output has a gazillion possible ways of being generated inside.***

Timing, coordination, firing patterns, stabilization, what was activated how and when... ***that*** information ***matters*** to me. And I ***care*** about ***how*** and ***why*** that body part happened to move in ***that specific way*** no matter how it looks. ***The movement system works by self-organizing solutions to movement problems.***

Dinner Guest:

***But wait...*** if I ask the horse to move his leg a little more under and he says, “no problem” and can do it, how is that **NOT** a “***self-organized solution to a movement problem?***”



Draumur's *nervous system*:

***Great question.*** A movement that is ***trained*** is NOT ***always*** the same as ***automatically available***.

***If you had to ASK the horse to “step more under” it means the horse did NOT choose that movement as an automatic solution to a movement problem.***

If the specific movement of a body part does not emerge ***naturally***, how can I know the horse would use it in an emergency? If the horse ***only*** “steps under” because you ***directed*** him to, the internal firing pattern for this is NOT the same as if it was a self-organized automatic choice to put THAT leg in that more optimal position! The data I need is not just ***WHAT*** happens, but also ***WHY*** and ***HOW***.

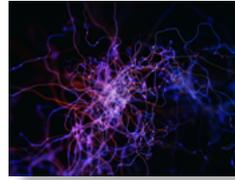
A photograph of two horses in a natural setting. The horse in the foreground is a light-colored horse with a very long, flowing, light-colored mane that is blowing in the wind. It is rearing up on its hind legs. Behind it, another horse is partially visible, also with a long mane. The background shows a blurred landscape with trees and hills under a clear sky.

The horse's movement system evolved to solve functional movement problems. If a movement is not *automatically* generated, then it might not be available in an emergency! When a movement arises authentically to solve a problem, the internal patterns, timing, coordination, which fibers were activated and in what order, etc. can be VERY different from movements "directed", cued, instructed by others. Even if it looks the same on the *outside*, it is different on the *inside*!

A horse that *struggles* to flex his hindquarters in *work* might be *naturally* capable of it in *play*, because his movement system is self-organizing to solve an *authentic* problem.

Dinner Guest:

**You are not giving me any options! If I can't make you happy by *MAKING* the horse do it and I can't make you happy by gently "suggesting" the horse do it... *WHAT!?***

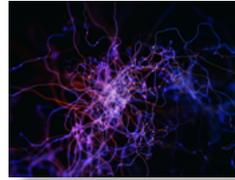


Draumur's *nervous system*:

**Relax.** You have options. You *can* "cue" a movement task, you just can't tell him exactly **how** to move his body parts to do it. If you want to give me more data, you can still tell the horse **what** to do, but **NOT how** to do it. For example, you can "suggest" the horse moves sideways. But you do NOT tell him *how* and *when* and *which* legs to cross, what his shoulder does, exact angles etc. You can ask the horse to step over poles, but don't tell him HOW you want him to organize his body to do it. If **you** ask for more "action" from a body part, that tells **me** NOTHING useful. *I need to know what action the body will take on its own to solve this movement task.*

Dinner Guest:

**Then how do I EVER help the horse be better if I can't help him do it any better than he already IS?**

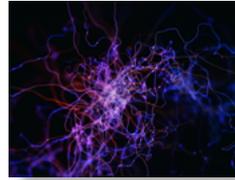


Draumur's *nervous system*:

**Again, relax.** Remember, this is ONLY about when the horse is *resisting* certain movements, struggling, persisting with problems. ***If the horse is already moving great, then there's probably no problem asking for movements in a specific way.*** Keep doing what you're doing if you and the horse are happy, because if everything is good and the horse is not resisting or struggling in any movements, then it means I AM HAPPY.

The problem **you** have is ***what happens if I'm NOT happy,*** because *that's* when I need authentic (un-coached) movement data. BUT ... if that movement is NOT good... how can you ever make it better?

Dinner Guest:



Draumur's *nervous system*:

**YES! You don't want ME "fixing" symptoms, but... the symptoms won't fix themselves!**



Remember, always check first with your veterinarian!!

**Don't be so sure.** In most cases, the symptoms actually CAN "fix themselves". But not without *your* help and *my* help, **together**. It's just a different *type* of help than most people are doing. You've been trying to help the horse move in a "better" way, but I keep resisting because of movement function issues **you don't know about**. But the movement *function* problems are probably NOT *tissue structure* problems! NOT serious muscle *weakness*, NOT *short muscles*! The problems I care about are usually *neural* issues! Motor control. Problems in timing, coordination, sequencing, activation patterns! ***I'm fearful and protective when I think the horse lacks stability in certain movements!*** YOU CANNOT FIX THIS BY MAKING THE HORSE DO MOVEMENTS I'M FIGHTING! The answer is to *inspire and facilitate and empower and enable* movements that improve self-organized ***mobility and stability!***

We can inspire and empower *novel* movement activities for the horse using the natural environment. Slopes, uneven ground, unusual footing, obstacles, other horses, play. The horse becomes more adaptable, agile, and stable. The nervous system recognizes this and begin to release restrictions, bracing, and weakness...

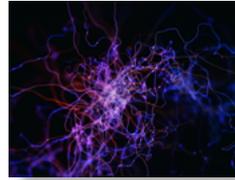


Self-organized movement puzzles help the nervous system feel safer about what the horse's body is capable of doing.



Dinner Guest:

**So that's your answer?  
Just "play" a lot? And  
you'll... magically stop  
fighting and the horse  
will magically get better?**

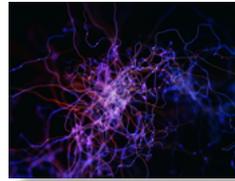


Draumur's *nervous system*:

**It's not magic.** It's just nature. And it's not JUST "play". There are many activities you can use to help give me what I need: to show me the horse IS more mobile and stable (which means safer in more movements). For example, if you want that "weak hind leg" to "step more under", why don't you give the horse a legit movement reason for doing it? You keep *telling* him to do it but the horse has no movement-related **purpose** for doing it! But you CAN come up with an authentic MOVEMENT reason that will make *me* happy, *and* instantly cause the horse to do it automatically. I'm not telling you what it is; **you** have to solve the puzzles. Here's a clue: imagine a scenario (without pressure) where the horse *would* have to step more under *as an instant reflex*. Think about slopes... downhill... now what about ... sideways? In what situations would it happen *naturally*?

Dinner Guest:

But aren't these movements dangerous? Can't the horse be injured doing these "novel" movements, especially in bigger ranges?



Draumur's *nervous system*:

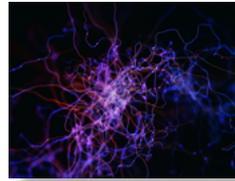
Most injuries in sport horses are from ***cumulative microtrauma***. The horse is asked to do the same movement over and over and over and over and over again. ANY movement the horse does — no matter how “correct” — is ***damaging when it's repeated in the same way, without enough variation in every step. Yes, every step.***

When I'm happy and I have all the data I need, the movements might look the same to YOU, on the outside, but ***inside*** it's a little different every stride. ***Yes, every stride.***

But the body can ONLY use protective variability if the horse has a big enough movement toolbox. Healthy movement is when the movement system has a wide variety of ways to do THE SAME MOVEMENT.

*Dinner Guest:*

You didn't answer the question. Aren't these "unusual" movements dangerous?



*Draumur's nervous system:*

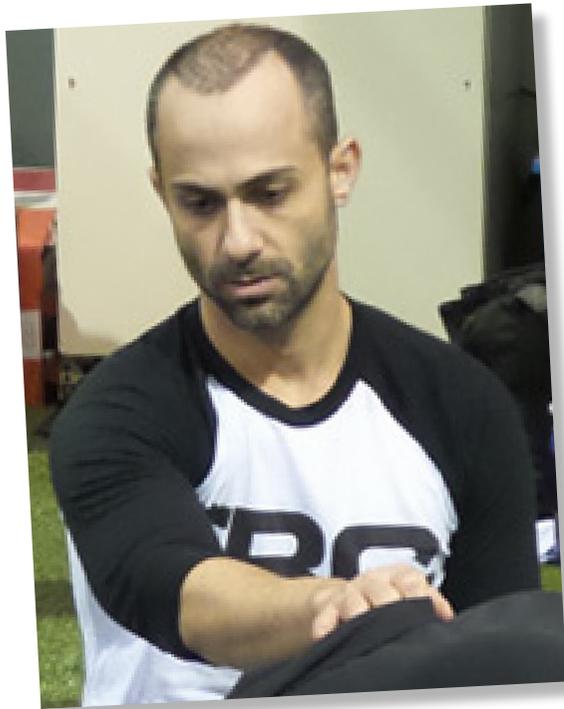
**I DID answer the question!!** It's *not* the "unusual" movements that are the risk. It's the "usual" movements **repeated**. Virtually all equine physios agree: by the time the horse gets a soft tissue injury (tendons, ligaments, etc.), or even many types of bone and joint injuries, the **damage was already happening!** **By the time it becomes an acute injury, that's the "last link" in a very long chain of repeated stress.**

He might not often *do* those "unusual" movements, but he **will do them in turnout**. You can't prepare the horse for these through "correct training", because your training never includes those movements! But if these "unusual" movements are voluntary and authentic, **I get new information I can use to help stabilize the horse in the future!** It only *seems* risky to if you think the horse is supposed to work in this tiny narrow range of "safe, correct" movement. **THAT** is risky .

Unless we wrap them in bubble wrap and keep them in a stall, horses WILL make unusual movements in turnout, play, or simply trying to reach under that fence in an extreme yoga pose to get that better grass.

Trying to *prevent* them from doing movements naturally is not just *impossible*, it can *increase* their injury risk. Sooner or later, the horse *is* going to move in ways he was born to do.





***“You always regret not training the position in which you were injured”***

– Dr. Andreo Spina

Ceator of the Functional Range Release (FR) soft tissue management system, the Functional Range Conditioning (FRC)<sup>®</sup> mobility development system, and Kinstretch



***“Sooner or later, gravity will take you there. There are no wrong movements, only those for which you did not prepare.”***

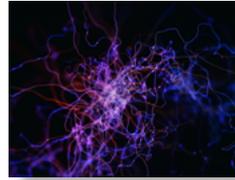
– Gray Cook, Physical Therapist  
Board Certified Orthopedic Specialist  
Founder of Functional Movement Systems  
(creator of the FMS and SFMA screens)  
Author, ***“Movement”***

Unusual, voluntary full range of motion movements are NOT the big risk to the horse. The risk is from high repetitions of the *same* movements. Rehearsing and rehearsing the most “correct” movements leads to the main cause of sport horse injury: cumulative microtrauma.



Dinner Guest::

I see what you did :) OK, yes. I think I can do this. But I need your **WORD** that if I **prove** to you the horse can do this on his own, **you'll stop fighting me.**



Draumur's *nervous system*:

**I promise you: I will ONLY resist that which I believe is a threat to the horse.** The deal is... you stop fighting **me**, and I'll stop fighting **you**. The horse may be more **capable** than I know, but he is also more **vulnerable** than you know... because he has **not** been doing enough of the **unusual** movements he **needs** in order to make the movements YOU want to be safe.

**I resist because the horse is NOT robust and adaptable.** The best way to do that is give the horse far more chances to **explore** unusual movements **without force**. **Use the environment, use nature, use other horses.** Put a set of ground poles between him and his dinner. Put random obstacles in his pasture. Take him on nature hikes! Do carrot stretches on unusual terrain! **You got this :)**

*Then the dream was over.*

*But you woke knowing you  
would never be the same.  
You knew that when the  
horse resisted, it was not  
**his** fault, or **your** fault.  
You vowed that  
day that you would  
see his nervous  
system as your ally.  
That you would  
never forget you are  
on the same team.  
**Team Horse.***



## Learn more:

<http://www.noigroup.com/en/Home>

*“Explain Pain Supercharged”*

TED talk by Lorimer Mosley

<https://www.youtube.com/watch?v=gwd-wLdIHjs>

### Central Nervous System

article by Tod Hargrove on “Better Movement”

<https://www.bettermovement.org/blog/2008/the-central-nervous-system>

### Movement Chapter One Overview (video)

Gray Cook

<https://youtu.be/9mDVU0XfYOc>

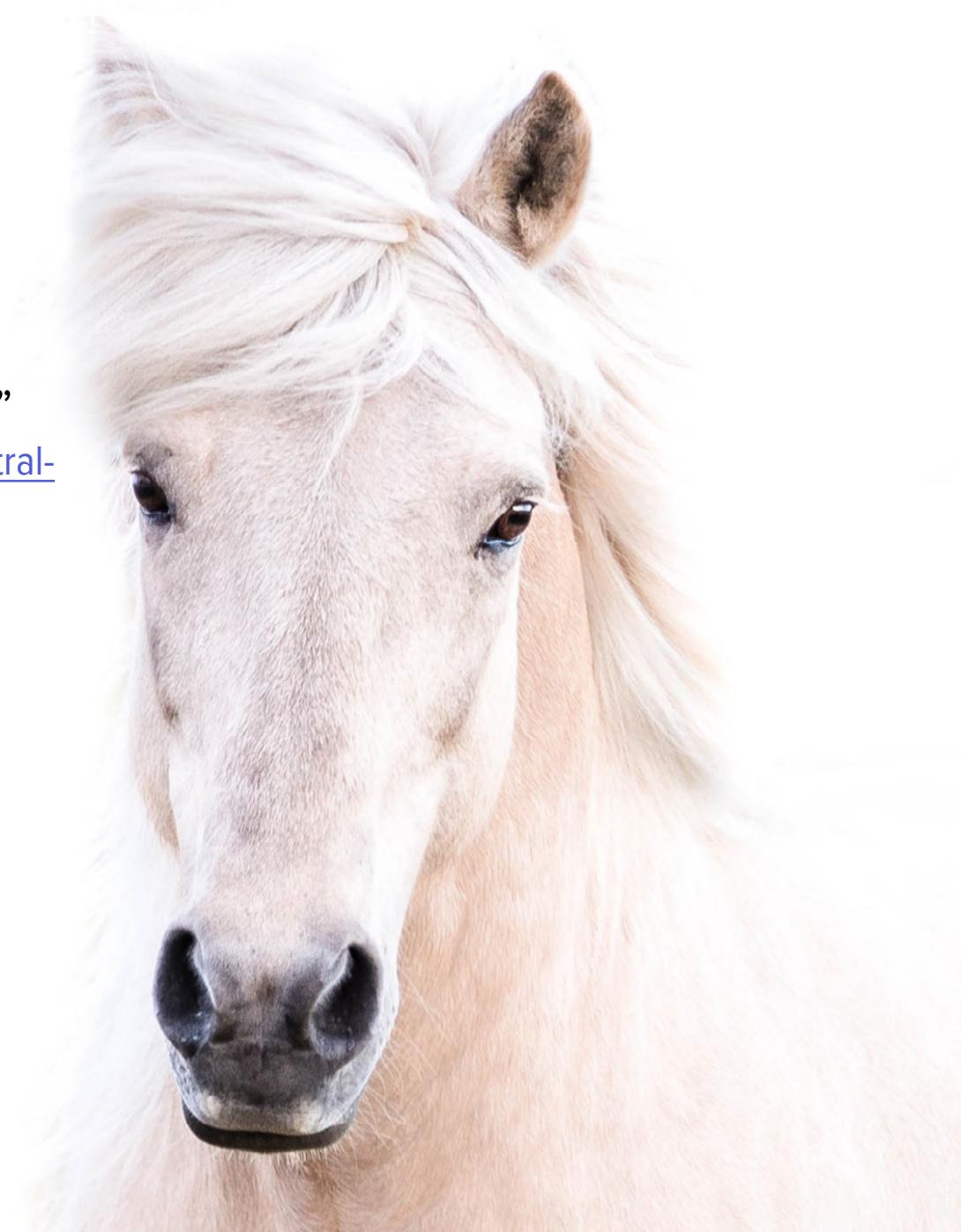
**“Connecting you to your movement path”**

**(video of Gray Cook at Google)**

[https://youtu.be/x\\_Xcs9ri\\_co](https://youtu.be/x_Xcs9ri_co)

[Follow @pantherflows on Instagram, or visit

<https://www.pantherflow.com>]





This is NOT just a dream.

(OK, maybe a little Photoshop but...)

**You Got This.**