

A Beginner's Guide to Polyvagal Theory

Dr. Stephen Porges, developer of Polyvagal Theory, identified a biological order of human response that is active in all human experience. With gratitude to Dr. Porges for his work, this handout explores and explains Polyvagal Theory in user friendly language.

We come into the world wired to connect. With our first breath we embark on a lifelong quest to feel safe in our bodies, in our environments, and in our relationships with others. The autonomic nervous system is our personal surveillance system, always on guard, asking the question "is this safe?". Its goal is to protect us by sensing safety and risk, listening moment by moment to what is happening in and around our bodies and in the connections we have to others.

This intent listening happens far below the thinking parts of our brain and far away from our conscious control. Dr. Porges, understanding this is not awareness that comes with perception, coined the term "neuroception". Neuroception describes the way our autonomic nervous system scans for cues of safety, danger, and life-threat without involving the thinking parts of our brain. Since we humans are meaning-making beings, what begins as the wordless experiencing of neuroception drives the creation of a story that shapes our daily living.

Anatomy and Abilities

Two Branches...Three Pathways

Our autonomic nervous system has three modes of responding: first - being safely engaged and socially connected; second - energized to move in response to danger; third - shutting down or collapsing when it seems we can't escape the danger. **In each mode we respond in characteristic ways.**

The autonomic nervous system is made up of two main branches; sympathetic and parasympathetic. The parasympathetic branch is further divided into two pathways giving the autonomic nervous system, in total, three pathways of possible response. Through each of these pathways we react "in service of survival".

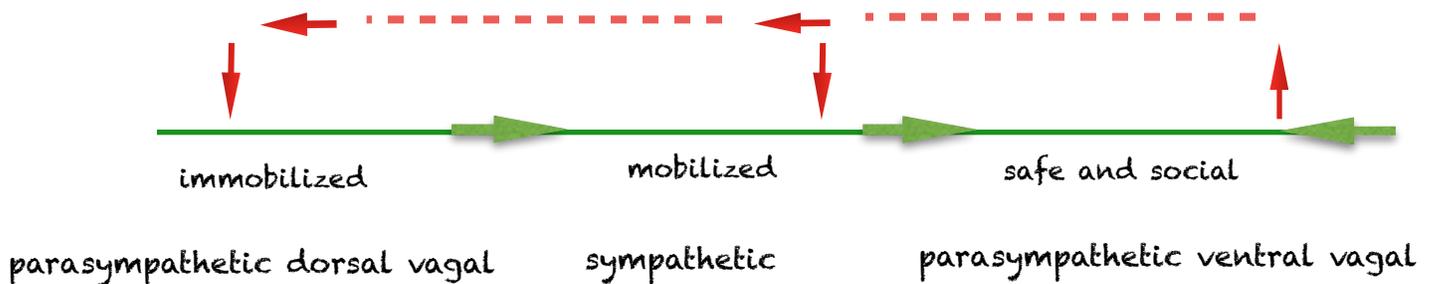
The sympathetic branch is found in the middle part of the spinal cord and prepares us for action. It is this system that is on the lookout for cues of danger and triggers the release of adrenaline that fuels fight or flight.

In the parasympathetic branch we find the remaining two pathways with a nerve called the vagus. Vagus, meaning wanderer, is aptly named. From the brain stem at the base of our head, the vagus travels in two directions; down through our lungs, heart, diaphragm, and stomach and upwards connecting with nerves in our neck, throat, eyes, and ears. The vagus is divided into two parts; the ventral vagal pathway and the dorsal vagal pathway. The ventral vagal pathway

supports feeling safe and social. When we feel comfortable and connected our ventral vagal system is online and in charge. On the other hand, the dorsal vagal pathway responds to signals of extreme danger. It takes us out of connection, out of awareness and into a protective state of collapse. When we feel frozen, numb, or “not here” the dorsal vagal system has taken control.

Dr. Porges identified a hierarchy of response built into our autonomic nervous system anchored in the evolutionary development of our species. The roots of the dorsal vagal pathway lie with our reptilian ancestors. The sympathetic nervous system, next to develop, is represented in the darting movements of fish. The most recent addition, the ventral vagal pathway, is unique to mammals.

When we are firmly grounded in our ventral vagal pathway, we feel safe and connected, calm and social. A sense (neuroception) of danger can trigger us out of this state and backwards on the evolutionary timeline into the sympathetic branch. Here we are mobilized to respond and take action. Taking action can help us return to the safe and social state. It is when we feel as though we are trapped and can't escape the danger, that the dorsal vagal pathway pulls us all the way back to our evolutionary reptilian beginnings. In this state we are immobilized. We shut down to survive. From here it is a long way back to feeling safe and social and a painful path to follow.



The Autonomic Ladder

Let's translate our basic knowledge of the autonomic nervous system into everyday understanding by imagining the autonomic nervous system as a ladder. How do our experiences change as we move up and down the ladder?

What would it feel like
To be safe and warm
Arms strong but gentle
Snuggled close
Joined by tears and laughter
Free to share, to stay, to leave...



The view from the top...

Safety and connection are guided by the newest part of the autonomic nervous system. Our social engagement system is active in the ventral vagal pathway of the parasympathetic branch, sometimes nicknamed the smart or social vagus. In this state our heart rate is regulated, our breath is full, we take in the faces of friends, we can tune into conversations and tune out distracting noises. We see the “big picture” and connect to the world and the people in it. I might describe myself as happy, active, interested and the world as safe, fun, and peaceful. From this ventral vagal place at the top of the autonomic ladder, I am connected to my experiences, and can reach out to others. Some of the daily living experiences from this state include being organized, following through with plans, taking care of myself, taking time to play, doing things with others, feeling productive at work, a general feeling of regulation, and a sense

of management. Health benefits include a healthy heart, regulated blood pressure, a healthy immune system decreasing my vulnerability to illness, good digestion, quality sleep, and an overall sense of wellbeing.

Fear is whispering to me
And I feel the power of its message
Move, take action, escape
No one can be trusted
No place is safe...



Moving down the ladder...

Our sympathetic branch of the autonomic nervous systems activates when we feel a stirring of unease, when something triggers a neuroception of danger. We go into action. Fight and flight happens here. In this state our heart rate speeds up, our breath is short and shallow, we scan our environment looking for danger, we are “on the move”. I might describe myself as anxious or angry and feel the rush of adrenaline that makes it hard for me to be still. I am listening for sounds of danger and don’t hear the sounds of friendly voices. The world may feel dangerous, chaotic, and unfriendly. From this place of sympathetic mobilization down the autonomic ladder and with a step backward on the evolutionary timeline, I may believe, “The world is a dangerous place and I need to protect myself from harm.” Some of the daily living problems can be anxiety, panic attacks, anger, inability to focus or follow through, and distress in relationships. Health consequences can include heart disease, high blood pressure, high cholesterol, sleep problems, weight gain, memory impairment, headache, chronic neck, shoulder, and back tension, stomach problems, and increased vulnerability to illness.

I'm far away
In a dark and forbidding place
I make no sound
I am small and silent and barely breathing
Alone where no one will ever find me...



The bottom of the ladder...

Our oldest pathway of response, the dorsal vagal branch of the parasympathetic nervous system, is the path of last resort. When all else fails, when we are trapped and action taking doesn't work, the "primitive vagus" takes us into shut down, collapse, dissociation. Here at the very bottom of the ladder I am alone with my despair and escape into not knowing, not feeling, almost a sense of not being. I might describe myself as hopeless, abandoned, foggy, too tired to think or act and the world as empty, dead and dark. From this earliest place on the evolutionary timeline, where my mind and body have moved into conservation mode, I may believe, "I am lost and no one will ever find me". Some of the daily living problems can be dissociation, problems with memory, depression, isolation, no energy to do the tasks of daily living. Health consequences of this state can include chronic fatigue, fibromyalgia, stomach problems, low blood pressure, type II diabetes, weight gain.

Now that we've explored each of the places on the autonomic ladder, let's consider how we move up and down. Our preferred place is at the top of the ladder. As the song "I Can See Clearly Now" (written by Johnny Nash) sings to us "I can see clearly now, the rain is gone, I can see all obstacles in my way. Gone are the dark clouds that had me blind." The ventral vagal state of being is hopeful and resourceful. We can live, love, laugh by ourselves and with others. This is not a place where everything is wonderful or a place without problems. But it is a place where we have the ability to acknowledge distress and explore options, to reach out for support and have organized responses. We move down the ladder into action when we are triggered

into a sense of unease, of impending danger. We hope that our action-taking here will give us enough space to take a breath and climb back up the ladder to the place of safety and connection. It is when we fall all the way down to the bottom rungs that the safety and hope at the top of the ladder feels unreachable.

What might a real life example of moving up and down the autonomic ladder look like?

I am driving to work in the morning listening to the radio enjoying the beginning of the day (top of the ladder) when a siren sounds behind me (quick move down the ladder). I feel my heart race and immediate worry that I've done something wrong (staying in my spot down the ladder). I pull over and the police car rushes by me. I pull back out and resume my drive to work and feel my heart begin to return to its normal speed (moving up the ladder). By the time I get to work I have forgotten about the incident and am ready for my day (back at the top of the ladder).

I am having dinner with friends enjoying the conversation and the fun of being out with people I like (top of the ladder). The conversation turns to vacations and I start comparing my situation to my friends' situations. I begin to feel angry that I can't afford a vacation, that my job doesn't pay enough, that I have so many unpaid bills I'll never be able to take a vacation (moving down the ladder). As my friends continue to talk about trips and travel planning I sit back and watch. I disconnect from the conversation and begin to feel invisible as the talk goes on around me (shutting down and moving to the bottom of the ladder). The evening ends with my friends not noticing my silence and with me feeling like a misfit in the group (stuck at the bottom of the ladder). I go home and crawl into bed...(the only place I know now is the bottom of the ladder). The next morning I wake up and don't want to get up or go to work (still at the bottom of the ladder). I worry I'll get fired if I don't show up and drag myself out of bed (a bit of energy and beginning movement up the ladder). I am late to work. My boss comments on my lateness and I have a hard time holding in an angry response (continuing to move up the ladder with more mobilized energy). I decide I've had enough of this job and will seriously look for a new one (still moving up the ladder). I begin to consider the skills I can bring to a new job and that with the right job I will be able to pay my bills and maybe even take a vacation. I have lunch with a co-worker and we talk about our jobs and dreams for the future (back at the top of the ladder).

Systems working together...

When the three parts of our autonomic nervous system work together we experience wellbeing. To understand this integration we leave the imagery of the ladder and imagine instead a home.

The dorsal vagal system runs the "basic utilities" of the home. This system works continuously in the background keeping our basic body systems on line and in order. When there is a glitch in the system we pay attention. When all is running smoothly our body's "basic utilities" work automatically. Without the influence of the ventral vagal system, the basic utilities run the empty house but "no one is home"...or if we are home the environment is one that brings no comfort.

Everything is turned down to the lowest possible setting - enough to keep the the air circulating, to keep the pipes from freezing. The environment is just habitable enough to sustain life.

The sympathetic branch can be thought of as the home security system maintaining a range of response and armed to react to any emergencies. This alarm system is designed to trigger an immediate response and then return to stand-by. Without the influence of the ventral vagal system, the system stays in a state of emergency notification continuing to sound the alarm.

The ventral vagal system allows us to soak in, and savor, this home we are inhabiting. We can enjoy it as a place to rest and renew by ourselves and as a place to join with friends and family. We feel the “basic utilities” running in the background. The rhythms of our heart and breath are regulated. We trust that the “monitoring system” is on stand-by. The integration of systems allow us to be compassionate toward others, curious about the world we live in, and emotionally and physically connected to others.

Where do we go next?

This “Beginning Guide” is written to offer an understanding of the autonomic nervous system’s role and responses in service of our safety and survival. With this knowledge, we can begin to befriend the autonomic nervous system and map our personal response patterns. The befriending skills lead to attending practices. Our mapping leads naturally to tracking. With the awareness of tracking we can begin to intentionally tune and tone our autonomic nervous system. We can successfully navigate our quest for safety and connection.

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