

# Polyvagal Theory and the Alexander Technique

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Polyvagal theory has had a significant impact on how body-focussed practitioners conceptualise what they do over the last couple of decades, and has found a central place in many approaches to working with developmental trauma and Post Traumatic Stress Disorder (PTSD). While the scientific theory underpinning the theory is far from universally accepted, its model of a hierarchical nervous system response to anxiety, stress and trauma has proved useful to many body-mind practitioners, matching closely what they observe and experience in their work. In this article I'll be looking at how this model can give Alexander teachers a useful framework to understand some aspects of what we do, and provide new approaches to old problems which can lead to helpful shifts in how we approach working with students.

## **Background**

Polyvagal theory was developed by neuroscientist Stephen Porges from his explorations of the vagus nerve and its place in the autonomic nervous system (ANS). The ANS regulates low-level bodily functions which need to work without conscious intervention, such as heart rate, digestion and breathing, and plays a central role in regulating levels of psychophysical arousal. Arousal is regulated mostly by two complementary systems—the sympathetic nervous system (SNS) which increases our arousal levels to orientate us towards activity and action, and the parasympathetic nervous system (PNS) which lowers our arousal level and orientates us towards quietness and more internally focussed states of body and mind. Where we are under threat, the ANS is responsible for evoking fight-flight, freeze or flop responses which are basic autonomic adaptations to help animals escape from danger.

Porges' model gives us a richer view of this arousal regulation system. He describes the PNS as being split into two parts controlled by different branches of the vagus nerve. The *dorsal* branch, which connects to organs of the abdomen below the diaphragm is, he claims, an early system in evolutionary terms, which we have in common with reptiles. Among other things, it plays an important role in the flop and freeze responses to stress and danger that cause us to spontaneously shut down when faced with threatening situations. When a mouse freezes in the presence of a cat, or collapses and goes limp through fear, this is controlled by the dorsal vagus.

Above the dorsal branch of the vagus nerve there is the *ventral* branch which innervates and regulates many important organs and functions above the diaphragm such as the the heart and lungs (which play important roles in emotional arousal) and also many of the systems designed to mediate social interaction. It's linked, for example, to muscles used to create facial expressions and to tune our hearing to the frequency of the human voice, and to our systems for focussing attention, making and holding eye contact, speaking and singing. In practice, he claims, this means the ventral vagus can be stimulated to calm our nervous system and lower our arousal level through positive social contact with others. This makes intuitive sense. We know that, for most of us, when we are anxious a soothing word, friendly eye contact and caring expression from those around us will help calm us down.

According to Porge's model, the systems for arousal regulation mediated by the dorsal and ventral branches of the vagus nerve are organised *hierarchically*. Generally speaking, our go to option in times of stress is to self-soothe and if that is not possible, to turn to other people for comfort and help in regulating and calming painful, anxious or overwhelming emotions. If others are not available, or if they respond to our distress with rejection or contempt our system may remain in a chronically over-aroused, anxious state, or resort to more primitive dorsal vagal strategies causing some degree of freeze or collapse.

If we've experienced a chronic lack of physical or emotional safety in our lives—particularly when we were young—our ability to regulate our arousal via the ventral vagus will be impaired (Samsel, no date). Even if we *were* safely held when we were young, modern humans live in environments that are

very different to those we evolved to deal with. Many people's lives feature constant challenges around factors such as economic survival, competitive rather than communal ways of relating to others, the search for belonging to a group or 'tribe', and difficulty gaining true acceptance from others who are struggling with the same challenges themselves. For this and other reasons, many of us live in a state of near-constant anxiousness and are stuck to some degree in one of three states:

- Chronic anxious over-arousal in which the parasympathetic nervous is not able to activate effectively to calm us down.
- States of stuckness in which our nervous system remains aroused but that arousal is frozen by simultaneous dorsal vagal activation.
- A state of under-arousal, collapse and emotional shutdown, where our system has failed to regulate anxious over-arousal using ventral vagal strategies and has resorted to dorsal vagal strategies instead.

## **Arousal and Inhibition**

The ability to say 'no' to a stimulus is an important part of maintaining a quiet nervous system. But there's a chicken-and-egg quality to this because inhibition is difficult to access unless our nervous system is in a relatively quiet, present state to begin with. The beginning Alexander student who tends towards anxious over-arousal may find they're being asked to inhibit a response to a stimulus but that it's impossible for them because it requires them to use a function that the state of their over-activated nervous system makes difficult to access. If we want to help the student it's therefore vital that this vicious circle is broken, helping their system quieten down enough to enable them to say 'no' as we are asking.

This is an important part of the role of hands-on work. Alexander teachers also know that their overall psychophysical state, tone of voice, quality of touch and so on is a central part of helping their student to quieten down. The polyvagal model supports this, and further suggests that if we really want to help peoples' nervous systems to quieten, we need to be fundamentally concerned with creating a sense of *safety*. Such safety depends partly on the extent to which we feel comfortable and secure in ourselves while being able

to be sensitive and responsive to the other and allowing them to be themselves. It involves being willing to be present and real, neither backing off through fear of open-hearted connection nor allowing ourselves to slip into over-connecting which can result in imposing, boundary-crossing, and using the student to fulfil our own needs.

## **Self-Help for Over and Under-Arousal**

It's wonderful to be able to help a student calm down in a lesson, but they also need to be able to access inhibition when they are on their own. Polyvagal theory suggests various self-help techniques we can give our students to help them calm their nervous systems, making it easier for them to access inhibition between their lessons. If a student tends towards anxious over-stimulation, this can greatly speed up the process by which they are able to helpfully apply the Technique for themselves.

Such procedures can be as simple as bringing consciousness to the out-breath, lengthening the out-breath, orienting by looking around oneself, or using the hands to gently rub down the face. There are many others which can help activate the calming action of the ventral vagus and which, with practice, can help break the cycle of SNS over-activation that makes bringing about changes for oneself through the Technique unnecessarily slow for some people. An excellent book to recommend to students with regard to this is Deb Dana's 'Anchored' (2021).

## **Creative Uses of the Polyvagal Model**

Hands-on work has always been at the heart of the Alexander Technique. While it's a wonderful resource it also has its limitations. We have only two hands, and it is often not possible to follow fast or complex activities in a helpful way, for example, or to place ourselves relative to a student as might be most helpful. Polyvagal theory can give us pointers towards hands-off ways of working that can be fruitful to explore. By way of illustration, here's a single example (many others could be given) based on the creative use of eye contact.

Eye contact is one of the most important ways humans connect and interpret what's going on in each other. It's mediated to a large extent by the ventral vagus—and hence linked to the calming action of the PNS. To make

gentle eye contact with a trusted person and have them return our gaze can be deeply regulating and centring. Now and again we can use this to help us work with people in a useful way.

Let's say I'm working with a student pianist who has come for lessons because she's experiencing pain in her shoulders. She also feels that although she plays expressively on her own, she tends to close down emotionally whenever she has to perform in front of others. She is in quite a stressed state from college, so for the first few lessons we work mostly with quietening down, connecting to the ground and accessing a quiet, balanced resting state in the relatively stress-free environment of the lesson. After a while she's able to find a much more free, grounded and 'up' way of being while quietly sitting and standing. But we notice that whenever she makes any kind of opening gesture with her arms (which is often associated with an emotional openness also) we notice she loses her connection with the ground, pulls down, and disconnects.

**Teacher:** 'would you be willing to try an experiment?'

**Student:** 'I guess'

**Teacher:** 'OK, let's stand at opposite ends of the room facing each other, and if at any point you feel uncomfortable or want to stop will you say so?'

**Student:** 'OK'.

We move away from each other and take up this position.

**Teacher:** 'Let's begin by putting our hands on our hearts like this'. I show her what we mean. 'Now what I'm suggesting is I'm going to slowly open my arms a little, and you copy me, and at the same time we make a little eye contact'.

She looks a bit unsure.

**Teacher:** 'The reason I'm suggesting this is because, for humans, eye contact is one of the ways we know we're safe and can relax. It's hard-wired into the nervous system at a deep level. When we're able to make eye contact it tells our nervous system we're safe and it can let go, does that make sense?'

**Student:** 'Yes' She still looks a little unsure, but also more interested.

**Teacher:** ‘OK, well let’s do it a bit without any eye contact and see how that feels’.

We do so. She watches me move and copies. I’m modelling a coordination that, given the chance, can easily be done without holding or bracing. She follows, and falls into her usual way of pulling down and disconnecting from the ground.

**Teacher:** ‘OK, are you alright to try again but with just a little bit of intermittent eye contact?’

We do this, and the same thing happens.

**Teacher:** ‘How was that’

**Student:** ‘A bit weird, but OK’

**Teacher:** ‘So this time let’s open the arms a little wider, and hold them there a few seconds’

Again we do so. I’m aware that as we open our arms, I, too, strongly want to pull away from the ground and hold my breath—her uncertainty and nervousness perhaps triggering my own feelings of insecurity, and maybe vice-versa too. So I consciously reconnect with the ground and allow my breath to breathe, hold my arms open and hold her gaze.

**Teacher:** ‘Can you let your belly breathe with this?’

She nods and keep eye contact

**Teacher:** ‘So really the invitation here is that our nervous systems will say to each other ‘Hi! We’re Safe! It’s OK!’

I wiggle my fingers: ‘hi!’

She gives a little grin. Suddenly her breath lets go in a series of little judders and I see her connect straight through to the ground and up. We stay there breathing lightly for a few seconds and then I close my arms again.

**Teacher:** ‘How was that?’

She’s spontaneously breathing more freely deeply, and smiling.

**Student:** ‘Yes, I felt it!’

**Teacher:** ‘Great! Well let’s say that’s enough for today and do something else’.

We do a little more of this kind of work over the next couple of sessions, by the end of which she’s able to stay connected and ‘up’ with her arms open without much trouble. She says she’s noticing a difference in her confidence, her emotional expressiveness in her music, and in her life in general.

## **Cautions and Contraindications**

I’m aware some teachers might feel uncomfortable about working in the way I’ve been describing and raise some concerns. One would probably be that it’s moving too close to therapy. My response would be that Alexander teachers are working therapeutically anyway—by the way we use our hands and the relational aspects of what we do, and both ourselves and our students can only be helped by us making this aspect of our activity more conscious and considered. Brigitta Mowat (2006, 2008) has done some very useful work exploring these questions in an Alexander context.

In any event, the above example is *not* therapy, it’s still primarily educational. The student is learning about herself and her responses, and though some of this learning is at quite a visceral level, it is still learning. Any therapeutic effect (which there certainly was) is a by-product. It’s welcome, but it’s not used as a starting point for further psychotherapeutic investigations, abandoning the main point of the lessons.

We might be tempted to speculate—as Alexander teacher Sue Pepper (Rennie et al. 2015) does, for example—that such a difficulty with opening the heart while staying connected may be linked, in Reichian terms, to a ‘psychopathic holding pattern’ or some other pathologising formulation. We may be right or wrong in such speculations, but as Alexander teachers we’re not going to go digging for the answer. We don’t need to make a story about the cause. The student may in fact tell us the cause if they identify it for themselves, or they may not, and both are absolutely fine.

Another objection which could be raised, and which Brigitta Mowat (2006, 2008) discusses, is to do with boundaries and client safety. While it needn’t paralyse us, this needs to be taken seriously. Making the kind of eye contact I talked about above can be highly activating if a person has an early

history of woundedness around connection with others. It's important to be sensitive to the fact that in working like this we're dealing with an intimate kind of connection. 'Less is more' applies. In the above example we had less than 15 seconds of eye contact in the entire interaction, which was more than enough. Also note that I suggested we stand at opposite ends of the room, making a safe physical distance, and that we had already had several lessons and were fairly relaxed with each other by this point.

In working this way it's important to be clear about whether one has an unmet and unresolved yearning around eye contact oneself. The last thing a student needs is for us to approach them with a grasping, needy quality that wants something from their eyes! If we do this then the most likely outcome is that we'll 'creep them out' and we won't see them again, but the results could, exceptionally, be more serious.

In any case, all the concerns mentioned above in relation to eye contact are just as much of a factor in hands-on work. Touching is also a very intimate thing. It's just as possible to trigger past trauma or impose or manipulate with our hands as it is with our eyes. Fortunately, our training, with its focus on being around other peoples' bodies and nervous systems in a non-invasive way makes a good grounding in what is helpful rather than harmful in terms of contact of *any* kind. But as always, vigilance is needed, and at all times it's important to seek not to operate beyond our level of skill, to watch our own motivations for making any kind of contact with the student, and to seek appropriate support if we detect we have needs towards those who come to us which are unhelpful to them.

## **Conclusion**

There's been a growing awareness for a while in the Alexander world that to avoid fading into irrelevance we need to be coming out of our walled garden and engaging with the best of what other related fields have to offer us. I hope I've suggested some interesting possibilities here and made some connections which teachers will find useful.



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