The EABP Congress, held online in August 2021, closed with a fascinating discussion between two important theoretical leaders in our Body Psychotherapy and Somatic Psychology community. Stephen Porges, creator of Polyvagal Theory, and Genovino Ferri, president of the National Italian Association for Body Psychotherapy discussed such fundamental principles as our evolutionary mandate and biological imperative as a species, coining the term neuroception, and creating a glossary for the language of the body so that we can understand and see the internal intelligence of feelings.

Together, joining their extensive experience as researcher and psychiatrist, they begin a discussion that serves as a needed bridge between clinical practice and neurophysiology, a project envisioned by Sigmund Freud whose time has finally come.

— Porges

When we start paying attention to feelings – and polyvagal theory puts feelings or physiological states between the context and our behavior and thoughts – we move into the notion of respecting and honoring our bodies.

I’m not a therapist and I’m not a clinician, but I was a researcher who had a vision, and the vision is sixty years old. That vision is to explore what we can measure about a person’s feelings without them knowing. My research used the psychophysiological to monitor autonomic function. But as the theory evolved, as I started to develop it, I began to understand that we are broadcasting our physiological state through our facial expressivity, through our voice intonation, through our muscle tension, through our posture, through all the channels that body psychotherapists feel and know. The question is, can we give this a name?

Gino and I will be dancing around some of these ideas and talking about the grammar of the body. What language is the body using? No matter what that language is, we are always left with one important point. We have neuroception that tells us what’s going on, and we have to become more attuned to our neuroceptive reactions, and respectful of our own feelings and how the cues of others trigger those feelings in us. And that’s therapy.

Gino, it’s in your hands now.

— Ferri

I was really intrigued by the concept of neuroception, and this morning I had the idea to translate it into a
more poetic or humane way – to align it with intelligence, life’s intelligence – etymologically, the ability to read, *interleggere*, to read between the lines. Intelligence is an exceptional quality of the complex open living systems that living organisms are. We can begin with the whole planet as an intelligent organism, and go all the way down to the paramecium, whose membrane selects elements in the same way that we humans select through our subjectivity. I like placing neuroception next to intelligence.

**Porges**

It’s a very important question. We first have to understand our biological imperative as a species. Our biological imperative is to connect with others, not to fight with others, not to dominate them, and not to isolate from them. It’s to connect, so that we can mutually co-regulate each other and benefit from feelings of safety, because when we feel safe, our nervous system is optimized for health, growth, and restoration. When we feel threat, we change those neural feedback loops and become defensive. We start excluding people from our environment.

So, our evolutionary mandate is to connect. That’s the embedded biological intelligence that we’re reaching for. But we have tremendous issues with the fact that the world does not see or understand this biological mandate. The world basically says that you have to take care of yourself, that you don’t have to feel your body. It tells us to turn off our feedback loops. It makes us protective, puts wrappers on our body and wrappers on our social environment, not allowing our core to be expressed.

As body and somatic therapists know, we’re always trying to open up people to their core. Metaphorically, what does this mean? It implies that we are safe to engage with others.

Engaging with others, caring for others, and co-regulating with others is a by-product of being safe. Now the conflict within our society – and I’m going to go back, because I can tell from reading Gino’s reflections that I’m dealing with a brilliant individual who thinks well, who expands, and likes dialogue and interactions – so, we can go back and think about what Descartes said. He said: “*I think, therefore I am.*” We are all the product of that philosophical perspective, and it’s a perspective that looks at us like product. It doesn’t look at the process inside.

The commonality between neurophysiological systems and psychoanalytic systems is that they’re both about an organism and how that organism reacts to the world. Now, the Cartesian view that led to an empiricist worldview says that it doesn’t matter what’s going on inside; the system will learn. And it does learn, but it learns by turning off its feedback loops, and when those feedback loops are turned off, they result in somatic illnesses and comorbidities. They are not comorbidities; they are part of the system.

So, I would like to play with a concept or a challenge to Gino. What if the world, what if Descartes had been mistranslated? What if he had said not “*Je pense donc je suis*” – “I think therefore I am” – what if he had said “*Je me sens, donc je suis*” – “I feel myself, therefore I am” – using the reflexive form of the verb to feel. In English, we don’t differentiate between feeling an object versus our internal feelings. That’s why, especially in English and U.S. cultures, we see a turning off of internal bodily feelings. The word is not used frequently; we don’t talk about respecting internal feelings.

**Ferri**

You are sparking a most intriguing inspiration since I have always believed that the head and the heart should be in conversation.
I believe that “I feel, therefore I am” is the basis of evolution. “I think, therefore I am” implies a dissociation between the heart and head, which carries the risk of accelerating time, dissociating us from the body, as well as dissociating the social body from the planetary body. We also dissociate through entering outer time and losing inner time. This is why I believe we should correct Descartes’ mistake by introducing feeling. Because the ability to feel belongs to the limbic circuits, to the ventral vagal pathways and the anterior cingulate gyrus, to the thoracic area, and, according to our bodily segments – to the heart. I believe that this link between feeling and thinking is the basis of the new intelligence we need.

The different types of intelligence have been stratified for millions of years now and connecting these layers would give us the opportunity to embrace the future. How do you feel about what I am saying?

— Porges

I, of course, am in total agreement. I would add, or qualify, that to create a degree of legitimacy and validity within academic and scientific communities, feelings never rose very high, but physiological state did. This is why my life’s work has always been focused on measurement of physiological state because I was not going to fall into the trap of being told that what I was doing is irrelevant.
If we can quantify physiological states, and merely say that our narrative, that our top-down systems, are creating stories to describe those feelings, then we start understanding the world. But everyone in this Zoom meeting knows this is a story because people who have trauma experiences, or other psychological experiences, are telling us they don’t feel right. And their body is not the same.

To add to what Gino was saying about the ventral side, when a person is in the state of defense, there is a self-protection of the ventral side. It's an interesting model, and if you look at the various somatic therapies that use hands-on bodywork, they are about opening the ventral side. If we just take our hands and pull them outward, we become accessible to others. If we’re tightly wrapped and curled inward, the cue to others is that we are not accessible. So, our neuroception of others detects intention, and we need to take and respect our neuroception to create a glossary of language of the body so that we can understand and see the internal intelligence of those feelings in protecting the body, rather than criticizing and shaming the individual for being defensive. We have to understand that the body interprets the context as threatening.

I agree. We’ve been on the same page for some time now. I might also say that it’s important to ask ourselves about the intelligence of the symptom. A person’s economy tries to set them free of guilt, criticism, and judgment. Understanding the economy of even a single psychotic condition, even the gravest, is fundamental since it would let us see that this economy is the most appropriate for that individual at that moment. This allows us to introduce a novel relationship and open ourselves up, as you call it.

If it’s okay with you, I will present the first of my three concepts about phylogenic and ontogenic evolutionary time.

If it’s okay with you, I will present the first of my three concepts about phylogenic and ontogenic evolutionary time.
on the other hand, are monads – they are lone animals. In phylogeny, 70 million years of this has resulted in mammals developing the ventral vagal circuit that activates behaviors such as intimacy, attachment, and cooperation. In this transition from reptilian to limbic brain, the value of feeling and having emotions stands out. From the perspective of phylogenetic stages that describe large steps of progress in hierarchical levels of time, it is an indication of higher evolutionary stratification.

This leads me to say that we see this evolution not only in the three brains and in the ventral vagal circuit, but in the locus coeruleus, which is the locus of the panic alarm, the amygdala, the cingulate gyrus, the neuromediators, the orbitofrontal cortex, and the prefrontal cortex – all of which tell us about this major leap that happened around two million years ago, when standing erect and becoming bipedal led to a massive new metabolic organization.

This is crucial for body psychotherapy as there are peripheral interfaces that correspond to this central position. What are these peripheral interfaces? They are the parts of our bodies that receive the initial imprint from the relationship with the caregiver during the developmental stages.

After this lengthy introduction, I can now pose the question I wanted to ask you: How important is the individual’s ontogenic narrative in giving us indications for emotional co-regulation? Because on the basis of ancient history, the ventral vagal circuit, which begins to function around the end of pregnancy and in the first few years of life, has different types of imprinting – exclusion, inclusion, acceptance, perceiving danger, support, destruction, security, or instability. Would having a careful background knowledge of an individual’s ontogenic history help us better co-regulate with them in the therapeutic relationship? Please excuse my long exposition, but I wanted to give you a frame for my question.

Let’s deconstruct what you said. What you are saying is that an individual’s developmental maturational history is important in the interpretation of the evolutionary stages that we assume all mammals, and specifically humans, go through. The literature shows a convergence between maturational, ontogenetic, and phylogenetic development. The question is disruptions. That’s embedded in your question. If there’s a disruption in the maturational pattern, how do we deal with that? Is that damage recoverable and what are its consequences?

We must start off by going back to approximately 26 weeks gestational age, which is when the autonomic nervous system starts getting its features. And it’s at around 30 to 32 weeks that the ventral vagus starts coming online. Now, the importance of the ventral vagal circuit in Polyvagal Theory is multilevel. One, it’s the body’s neural circuit that turns off threat reactions. If we can turn off threat reactions, we can connect with one another. We can be in proximity. We can create the various care bonds and social relationships, community cooperation, collaboration.

Connectedness requires the ventral vagus, or as my friend Gabor Maté says, humanity is really sociality. Sociality is our evolutionary heritage. Without it, we have no humanity. We are a social species and if we block this, we have trouble. But, if we block the ontogenetic transition, which is where you are going, what happens to sociality? It gets disrupted. Now, Polyvagal Theory takes an extraordinarily optimistic perspective. I want to share that with you. It doesn’t frequently assume that...
there is structural damage. Rather, it emphasizes that there are functional changes for adaptation, meaning that the circuit is there.

Looking at preterm babies – and putting my compassion aside for a moment – is a wonderful research opportunity. We see these systems coming on, and we also see the consequences on systems that have been challenged too soon. Premature children often develop extremely well on a cognitive level, but they often have many social and emotional problems. This was a grave misunderstanding within the medical community, who thought that the mark of doing well was the IQ measurement. Was the cognitive function fine? They did not look at whether or not premature children could connect and co-regulate.

Now, let’s go back to what’s really happening. When babies are born too soon, the ventral vagus is not fully developed, so they can’t turn off threat reactions. In addition, part of the ventral vagal circuit is the coordination of the striated muscles of the face and head, basically sucking, swallowing, and breathing – or in the world that I would love to share with Gino, *digestion*. We go out, eat and drink together, and have a good time. We use ingestion as a bridge for sociality. We do not use digestion as that bridge. Digestion is personal, it’s private, and it’s below the diaphragm. It’s not regulated by the ventral vagus.

The baby engages the world through sucking, swallowing, vocalizing, and coordinating this with breathing, which is ventral vagal all the way. Babies perform this wonderful neural exercise while nursing at their mother’s breast. And what do we know about preterm babies? One of the main issues is that sucking, swallowing, and breathing are compromised. That circuit is not developed enough, and that circuit is linked to the ventral vagal regulation of the heart. It turns off our threat reactions as we are ingesting. Our cultures have never forgotten this. We celebrate opportunities to ingest with others, because it is literally a signal to our nervous system to be social. So, to heal the ontogenetic disruption, we need to provide neural exercises that bring this circuit back into function.

Much of my work has involved this, especially with populations that have features of autism, features of behavioral state dysregulation. The intervention I developed, the *Safe and Sound Protocol*, was in a sense, a stealth intervention. It uses modulated sounds that our nervous system is hardwired to respond to, like the intonation of a mother’s lullaby. When we hear certain prosodic intonations, our bodies become accessible – we relax. We see this with babies. In our current research, we looked at the intonation of a mother’s voice following a still face experiment, where the mother freezes her face and then reengages. If her voice was more prosodic, the infant’s heart rate went down. If her voice had limited prosody, the heart rate went up, meaning that the neuroception of the infant was astute enough to detect slight variations in intonation. It means that the client’s cues are effective enough to trigger our physiology, to feel safe with a desire to connect. One final comment is that this gives us access to the language of neurophysiology to explain some psychoanalytic constructs. A little bit later in our discussion, I want to get into what you think is happening during countertransference.

**Ferri**

Of course, I agree. I have written about the first 500 days of the primary relationship* and I was very intrigued by the facts around swallowing. It should develop around the 13th gestational week. We know that during intrauterine life, around the fifth month of pregnancy, we observe different reactions to swallowing sweet or bitter substances. The rate of swallowing increases with sweet substances in the amniotic fluid and reduces with bitter ones. We observe something like mirrored taste, which precedes mirrored sight, which is described after birth. As if the body knows, it knows of the connection with the mother. This is truly stimulating because we are speaking of the time before myelination.

**Porges**

The interesting part of what you’re bringing up is that it’s also the ontogenetic principle that sensory systems develop before motor systems. This is critical because it’s actually occurring long before a top-down explanation and a behavior occurs. Sensory systems diffuse sets of feelings that are encoded on some level in the nervous system.

**Ferri**

Something else that is very intriguing about what you are saying is related to countertransference. When we feel tenderness, or we feel a need to include the other, what is happening within our body? Also, what is happening with the other’s time? It’s as if their “disconnected” time begins again. What do you think?

**Porges**

I started to think about this, this morning. I find this an extraordinarily interesting issue because throughout my life, I’ve interacted with many individuals and many therapists, and many have had what are now considered inappropriate relationships. But their narrative, their feelings, and how they justified their behaviors, had a degree of truthfulness. They were in a sense being honest to their body.

What polyvagal theory begins to explain is that if you are an effective therapist, and you are enabling your client to recruit their social engagement system and they are...
really using it, of course your body will react to this. The issue is that we are humans. We are therapists, not just academics, not just scientists, not just parents, and not just spouses. We are humans, meaning that we are sensitive to certain types of cues. When we learn the grammar of the body, we will understand that transference and countertransference are really examples of the neuroreception of a social engagement system.

It’s a paradox because of the goal of therapy. From a polyvagal perspective, the goal is to reengage your client’s social engagement system. Now it’s working, and you have bought into it. You have literally been caught. We need a special type of intellectual understanding to enable a top-down understanding of our bottom-up feelings that prevents developing a complex narrative that justifies certain behaviors.

— Ferri

I like this answer. Countertransference is the complex living system of the relationship that is carefully mutually built by two people. This is the first principle of therapeutic engagement. It creates the field, the frame within which we can introduce activations, physical or whichever other therapeutic approaches. I find this very important. I am tempted to say that words modify synapses, but the way those words are said modifies these synapses even more.

— Porges

To translate, in my terminology, we create a top-down narrative to make meaning out of experience. We make meaning out of feelings, and that meaning is literally imprinted.

If we ask therapists who work with anxiety issues what anxiety is, they will say it’s not solely a psychological psychiatric disorder. It’s a physiological, locked-in, state of threat. People externalize their anxiety onto outer events to create a narrative. The therapists I know who work with anxiety begin by calming their clients’ bodies with visualizations of special moments in their clients’ lives when they felt safe, loved, and comfortable. They start by using top-down visualizations as a container for bottom-up defenses. It’s a bi-directional communication.

I want to add a couple of other comments, which I left out in the beginning. And that is, in 1949, Walter Hess, a Swiss physiologist and physician, won the Nobel prize for his work on the brain’s regulation of the automatic nervous system. This is something very few people trained in medicine have ever heard about, because they were trained to focus on the brain and not on the body. I think that Gino would probably agree with me that psychiatry should be a sub-discipline of internal medicine, because connection and mental imaging are portals that can influence body regulation in a similar way that the body can influence the brain, which can be extraordinarily disruptive.

— Ferri

I believe that psychopathology is embodiment, that psychopathology is in the body. The manifestation of symptoms on the level of subjectivity is an effect, an epiphenomenon, but the main problem is in the body. That is why psychopathology should take the body into account, and psychotherapy should take the body into account.

— Porges

I would qualify. I don’t think it resides in the body. I think it resides in the brainstem’s regulation of the body. There is a communication at the brainstem level that affects the portals or actions to reach higher cortical areas. I visualize the brainstem area as receiving feedback from all our organs, and the neuroregulation needed to optimize health. When this gets disrupted, it creates a neural platform for psychiatric disease to emerge. You can have a variety of psychiatric diagnoses, but they can all have a common neurophysiological brainstem platform.

— Ferri

Let me clarify. When I say psychopathology is in the body, I don’t claim it is not in the brainstem, or in the basal ganglia of the corpus striatum. I am saying that, from a three-dimensional analytical point of view, psychosis is in the primary object relation, in the intrauterine period when we still had an umbilical cord, and the cord was the main channel through which we connected with the other. In this vulnerability, the eventual psychotic breakdown happens peripherally. This is a projection of the brainstem and the basal ganglia. For example, haloperidol is a neuroleptic that functions precisely there — it creates a shield in the brainstem, and it creates a shield on the level of the umbilical cord against the psychotic fear of death. These are different interfaces — central and peripheral. This is my three-dimensional understanding.

— Porges

There’s tremendous insight in what you’re saying, because there’s a convergence of models or ideas here. One, is that when you talk about the umbilical cord, it’s sub-diaphragmatic, and subdiaphragmatic neural regulation is where we feel a sense of betrayal and lack of trust. So that is the dorsal vagal reaction. I talk about immobilization without fear, and that is what you’re describing in the healthy fetus as well: the communication of the mother’s nutrients sub-diaphragmatically. I’m talking usually about this convergence between the ventral vagus picking up cues of safety that enable us to feel safe enough not to be in any sense of threat. They are parallels.

— Ferri

I like this simultaneous translation! I would like to introduce a hot topic: How do we deal with pharmacotherapy? It could be beneficial if we used it with the reading “Key”
we have been using up till now. What exactly are we expecting from drugs? Can they help us? For example, if I may use your words, if a person is in a dorsal vagal condition or in a situation of psychotic decompensation, do you think it could be beneficial to use psychopharmacological means that bring the person to a higher developmental level, where establishing a connection would be possible? In small doses, and without side effects. What do you think? Let’s exchange opinions.

**Porges**

Of course, this might be useful, but let’s discuss this for a moment. It’s not my initial preference. The problem is that pharmaceuticals do not have specific targets. We are led to believe that the drug companies will save us by finding drugs that target specific organs or organ systems, when in reality they tend to a certain number of transmitters that are all over the place.

After reading your question on haloperidol and dopamine, I did ask my wife, Sue Carter, the queen of oxytocin, about it. She’s the one who discovered the relationship between social bonding and oxytocin. I asked her about the relationship between oxytocin and dopamine. Now there’s an antecedent bit of information. About 20 years ago, in expanding the polyvagal model, I started to incorporate bringing in oxytocin and vasopressin. The area of the dorsal vagus, the nucleus of the dorsal vagus, is loaded with oxytocin receptors. I interpreted that as oxytocin enabled immobilization without syncope, without passing out, without defecating, which occurs during delivery, which is really where oxytocin was first uncovered and studied. It becomes part of the narrative that if we can stimulate in a way that keeps that dorsal vagal system from shutting down but still functioning, then we’re most likely going to take care of freezing, dissociation, or collapse. What Sue says is that the relationship between oxytocin and dopamine, like everything else, is interactive and complex, so that we have to think in terms of long-time effects. They are initially synergistic but are not afterwards.

I saw oxytocin as this major transmitter floating around in the body. I’ve never been a strong advocate of its external use, meaning using oxytocin as a nasal spray or bringing it in like a pharmaceutical. I’m more interested in how to stimulate the body itself to produce more oxytocin, so I’ve been leaning into the concept of neural exercise as optimizer or regulator. When I looked at your question on dopamine, armorining, and haloperidol, I wrote that we need to know if we can target the ventral vagal complex, and target the dorsal vagal complex, and more likely target the nucleus tractus solitarius, which is a sensory vagus, and let the brain do what it does best, which is interpret signals and calm us down.

A lot of treatments, such as vagal nerve stimulators, or trigeminal nerve stimulators for the ear and forehead, are being used in commerce to deal with PTSD and other anxiety. They come through the sensory pathway so that the brainstem does the processing and says: “I’m getting cues of safety. What do I do with them? Well, I’ll calm my body down.”

I think pharmaceuticals may play a role, but I am not convinced at the moment. I have a close friend who does stellate ganglia blockades for PTSD, and he’s doing remarkable work. My concern is whether it works for all types of trauma features, because when people carry a PTSD diagnosis, I don’t know if it’s a high anxious PTSD or a shutdown PTSD. My prediction is that the reactivity to stellate blockade would be different depending on these features. In a sense, being very polyvagal, the physiological state that they’re locked into would be a major mediator of how effectively the body takes the intervention. And I think it’s the same with pharmaceuticals.

What I really want to come down to is that I think conceptually, it’s a great idea on the acute level, which is really what you were talking about, but not necessarily on a chronic level, because chronic use replaces normal neural feedback loops, and that is part of the problem.

**Ferri**

With acute conditions, the drug allows the establishment of connection. I have 20 years of experience in emergency medical services for young people with psychotic decompensation, and I have established wonderful connections with them through timely, correctly prescribed, and well-dosed medication that allowed patients to come out of psychotic breakdowns. I could then establish an important connection with them that served as co-regulator in the ontogeny and in their history. In such cases, medication can be very useful and powerful.
Stephen W. Porges, PhD, is Distinguished University Scientist at Indiana University where he is the founding director of the Traumatic Stress Research Consortium in the Kinsey Institute. He is Professor of Psychiatry at the University of North Carolina, and Professor Emeritus at both the University of Illinois at Chicago and the University of Maryland. He served as president of the Society for Psychophysiological Research and the Federation of Associations in Behavioral & Brain Sciences and is a former recipient of a National Institute of Mental Health Research Scientist Development Award. He is the originator of the Polyvagal Theory, a theory that emphasizes the importance of physiological state in the expression of behavioral, mental, and health problems related to traumatic experiences. He is the creator of a music-based intervention, the Safe and Sound Protocol™, which currently is used by more than 2000 therapists to improve spontaneous social engagement, to reduce hearing sensitivities, and to improve language processing, state regulation, and spontaneous social engagement.

E-mail: sporges@indiana.edu
Website: www.stephenporges.com; www.polyvagalinstitute.org

Genovino Ferri is a psychiatrist, Reichian analyst, and international trainer of contemporary Reichian analysis in Europe and South America. Dr. Ferri is Director of the Italian School of Reichian Analysis (SIAR), president of the Italian Association of Body Psychotherapy (AIPC), and founder of Studio Analysis, a socially-centered psychotherapeutic clinic in Atri, Italy. He has been a member of the New York Academy of Sciences since 1999, and member of the International Scientific Committee for Body Psychotherapy. He is Editorial Director of the CorporalMente series by Alpes Editore.

E-mail: genovino.ferri@gmail.com; siar@analisi-reichiana.it
Website: www.analisi-reichiana.it