



A Technical Report on the Nature of

**MOVEMENT PATTERNING, THE  
BRAIN and DECISION-MAKING**



With gratitude to

**Vladimir Putin,  
The President of Russia**

For helping us understand .....

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**The views expressed in this report are those of the author and do not reflect the official view,  
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## EXECUTIVE SUMMARY

Movement patterns enervate basic human development, including brain function. This developmental process also underlies perception, learning and action which relates to how decision making unfolds. How, a person (and their body) visibly reveals the self in motion ultimately offers a map to how their brain functions and how they make decisions. Today, neuroscience is rapidly approaching the time - - when the linkage of movement and the brain - - through use of magnetic resonance imaging, (fMRI) and brain scanners - - can be more accurately traced and depicted.

This visible, but subtle template also sets a grid for a better understanding of human leadership potential – as well as compensation. This technical report discusses these links in relation to one subject in particular, the president of Russia, Vladimir Putin. He is our focus because his movement patterns and his microexpressions, analyzed on open source video, so clearly reveals that the Russian President carries a neurological abnormality, This profound behavioral challenge has been identified by leading neuroscientists as Asperger's Syndrome, an autistic disorder which affects all of his decisions. His primary form of compensation is extreme control and this is isomorphically reflected in his decision style and how he governs.

Brain neurology is primarily embedded in the first year of life. Putin's neurological development was significantly interrupted in infancy. Analysis of adult hardwired movement patterns, such as Putin's, offer visible evidence about which patterns are fully wired, which are more dominant and which may be latent. Although, brain scanning through fMRI presumably can not be conducted upon the Russian President, the links nonetheless to behavior, the brain and movement can be traced and act as a foundation from which to design a future scientific test of such correlates on other subjects.

Putin's abnormality and its affect on his governance is so apparent, it becomes a prime template for more general research related to decision and leadership analysis as well as the eventual interpretation of how the brain and central nervous system develop, in part, through the unfolding of basic neurological movement patterns.

Scientifically, the movement brain and decision template offers a basis for empirically testing human movement patterning's developmental effect on brain function, and, by extension – human decision making, including our potential to predict it. Putin's recent decision to hold on to power confirms an earlier prediction by this investigation.

Moreover, his continuing presence on the world stage provides a rich ongoing basis to confirm previous project hypotheses about his behavior. An individual's leadership potential and the degree to which compensation may play a role can also be determined through this approach. The findings would be applicable to all leaders. The next deliverable will outline such a scientific approach and the means of testing it with application of reliable measures made to real world assessments

As a real world subject, Putin also displays the kind of powerful compensatory patterns simply not well understood in the history of some of the world's most authoritarian and unpredictable leaders. This warrants further investigation as well. Putin's unique behavioral profile (and continuing presence on the world stage) offers obvious data for tracing human compensation patterns and the implications for political and behavioral knowledge.

Lastly, appreciating more specifically what a leader intrinsically carries gives political scientists a measure to better interpret behavioral baselines in relation to strategic context and national culture. Movement is an enervator of the brain which reflects ultimately leadership potential. For the national security community, appreciating the actual significance of the role of movement also offers a potential for intervention and repatterning of individuals in (or on their way to) powerful positions. As such, understanding better those links, their significance and their potential to predict behavior and decisions is as potent an instrument as an evolving weapon system.

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## **Movement, Brain, Decision Template -- Linking Neuroscience to Predicting Decision and Leadership Style**

Movement patterns enervate basic human development, including brain function. This developmental process also underlies perception, learning and action which relates to how decision making unfolds. How, a person (and their body) visibly reveals the self in motion ultimately offers a map to how their brain functions and how they make decisions. Today, neuroscience is rapidly approaching the time - - when the linkage of movement and the brain - - through use of magnetic resonance imaging, (fMRI) and brain scanners - - can be more accurately traced and depicted.

This visible, but subtle template also sets a grid for a better understanding of human leadership potential – as well as compensation. This technical report discusses these links in relation to one subject in particular, the president of Russia, Vladimir Putin. He is our focus because his movement patterns and his microexpressions, analyzed on open source video so clearly reveals that the Russian President carries a neurological abnormality, a profound behavioral challenge identified by leading neuroscientists as Asperger's Syndrome, an autistic disorder which affects all of his decisions. His primary form of compensation is extreme control and this is isomorphically reflected in his decision style and how he governs.

These movement patterns were initially detected through movement analysis as early as New Years Day 2000, in the first television footage ever seen of the then, newly appointed president of Russia. Today, project neurologists confirm this research project's earlier hypothesis that very early in life perhaps, even in utero, Putin suffered a huge hemispheric event<sup>1</sup> to the left temporal lobe of the prefrontal cortex which involves both central and peripheral nervous systems,<sup>2</sup> gross motor functioning on his right side (head,

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<sup>1</sup> A stroke is the leading hypothesis. Putin's mother was 41 at the time of his birth and apparently in extremely fragile health. She had given birth twenty years earlier to Putin's two brothers, one who died at birth and the other dead of diphtheria at five, while he and Putin's mother lived in a children's shelter. Putin refers to his mother in his self portrait, *First Person*, saying she was often hungry, in fact she once fainted and was placed on a pile of dead bodies taken for starved but was revived.

<sup>2</sup> It is assumed that our central nervous system (CNS) affects how we emotionally and cognitively experience, filter, organize and respond to information and thus make decisions. Since the late 1800 -1900s, the autonomic nervous system was considered to have two branches: the sympathetic and the parasympathetic. Basically our fight and flight and flee responses were connected to the sympathetic. Our more ordinary functioning, when we are calm and collected, belong to the parasympathetic. So called Balance theories about the CNS and its two parts had evolved because many of our organs are connected to both parasympathetic and sympathetic systems. The Poly vagal theory describes the newer theory and the actual neurophysical and neuroanatomical distinction between the two branches.

rib cage, arm and leg)<sup>3</sup> and his micro facial expression, eye gaze, hearing, and voice<sup>4</sup> and general affect.

Time Magazine's top editors are astute observers in describing their 2007 man of the year. Their interpretation of Putin's eyes however would likely be challenged by behavioral scientists. Their person of the year article, *A Tsar is Born*<sup>5</sup> begins with the following sentence about Putin's appearance and his eyes.

“No one is born with a stare like Vladimir Putin's. The Russian President's pale blue eyes<sup>6</sup> are so cool, so devoid of emotion that the stare must have began as an affect, the gesture of someone who understood that power might be achieved by the suppression of ordinary needs, like blinking.”

Pervasive Developmental Disorders such as Asperger's Syndrome, a form of autism arguably have their roots in the earliest months of life<sup>7</sup> when basic neurological patterning, senses and perception and reflexes emerge and become integrated into an infants early functioning.<sup>8</sup> During this time, movement also acts as a catalyst to brain development in that movement as a medium, is a two way street. The relationship between the neurodevelopmental movement patterns and the central nervous system is mutually influential. “Neurodevelopmental movement patterns influence the growth and function of the central nervous system. Equally, the Central Nervous (CNS) system affects whether or not all the types of movement will occur and their quality.”<sup>9</sup> While we

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<sup>3</sup> The movement of Putin's right arm and right leg has a loss of immediacy in the initiation of the action. It takes his CNS longer to kick in, in order to move these extremities. He is not “weak” as he has spent the better part of his life strengthening his body. Dr. Jeremy Schmahmann, Harvard Medical School cerebellum theorist, the latest brain expert to examine the footage believes the origin of Putin's loss likely occurred as an interuterine injury. Conversely, he believes if Putin was weak—than a more recent onset—and brain damage would hypothetically have been likely. However, with such a long standing insult as his, you get slowness, delayed initiation which is what is seen in Putin. Movement function, according to Schmahmann, is about “much more than just strength, it's about coordination, accuracy, motor dexterity, agility and lies far outside of realm of tone and tremor that afflicts those who have cerebral palsy or Parkinson's, for example.”

<sup>4</sup> For a more complete discussion of the analysis on Putin's micro-facial expressions see Brenda Connors earlier report, “An Act of Trust to Move Ahead” prepared for the Office of Net Assessment, 2005. This includes Connors' interpretation of Putin's emotional baseline as well as the commissioned expert analysis of Dr. Mark Frank, Paul Ekman's, the founder of Facial Action Coding, associate.

<sup>5</sup> Time Magazine, Person of the Year, *A Tsar is Born*, Time Magazine, Dec 31 – Jan 7, 2008, pp 46-62.

<sup>6</sup> Grubinger, Lenore Grubinger, *Neurodevelopmental Movement Patterns and the Central Nervous System*, 2001, [www.amajoy.net](http://www.amajoy.net).

<sup>7</sup> While a plethora of autism research has been conducted in recent years on the origins of the disease and even its definition across a wide spectrum of syndromes, no definitive theory seems to account for its etiology, See Harvard Magazine, *Autism: Probing The Roots Of a Devastating Disorder*, Jan. – Feb , 2008, pp. 27 -31. Movement research and analysis has however been used to diagnose the presence of autism before age one.

<sup>8</sup> This project's analysis is based on the work of Bonnie Bainbridge Cohen's Body Mind Centering as well as another movement analysis method, the Eskhol Wachman System are both promising approaches to detection of autism in the first year of life. See also “a Neurophysiological Basis for Intervention” by Ralph G. Maurer, D., Center for Autism and Related Disabilities, University of Florida, Gainesville, Florida, 32610.

<sup>9</sup> Lenore Grubinger, *Neurodevelopmental Movement Patterns and the Central Nervous System*, 2001, [www.amajoy.net](http://www.amajoy.net), Grubinger, *ibid*, p. 6.

are genetically designed to naturally mature - movement and the CNS are actually the vehicles through which much of the interaction between an infant's inner and outside environments takes place. "This reciprocal relationship is simultaneously physical and psychological."<sup>10</sup>

The behavioral implications of the early trauma Putin suffered are profound, affecting his ability to socially interact which poses great behavioral challenges to his cognitive and emotional processing as leader. Dr. Stephen Porges, neurobiologist and founder of the 1995 Polyvagal theory, a new interpretation of human evolutionary adaptation, believes Putin's brain wiring is latent where (the nervous system links to the head and face to enervate his) typical social engagement behaviors emerge. Instead Putin is primarily perceiving and expressing himself from the earlier adaptive fight/flight or flee stages of behavior.

In short, Putin's neurological perception is challenged and autism experts say this can manifest in hypersensitivity, social shyness and behavioral withdrawal from social stimulation.

Recently, while being interviewed for Time's international award by the Magazine's editors, his hyper vigilance shone through. Here's another description of the Russian President's affect during the interaction:

"He is impatient to the point of rudeness with small talk",...<sup>11</sup>

"Charm is not part of his presentation of self – he makes no effort to be ingratiating. One senses that he pays constant obeisance to a determined inner discipline."<sup>12</sup>

...he misread several of ours attempts at playfulness."<sup>13</sup>

Putin himself is sardonic but humorless. In our hours together, he didn't attempt a joke,...<sup>14</sup>

Theoretically, Putin's brain behavioral abnormalities affects his social engagement and defensive behaviors, including, sensing whether the environment is safe or, others trustworthy. This needs to be respected, if good and "trusting" interactions are to occur.

During the Time interview, he answered 21 questions. His response to one editor's query reflects in this analysts mind, Putin's basic personal struggle -- whether or not he can trust anyone – an issue that is so basic to his neuroceptive condition.

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<sup>10</sup> Ibid.

<sup>11</sup> Time Magazine, Ibid, P. 49.

<sup>12</sup> Ibid, p.48.

<sup>13</sup> Ibid, p.50.

<sup>14</sup> Ibid.

Time's Question :

“what do you think are American misconceptions about Russia?..

Putin's Response:

“Well, you know, I don't believe these are misconceptions. I think this is a purposeful attempt by some to create an image of Russia based on which one could influence our internal and foreign policies. This is the reason why everybody is made to believe, like, its O.K. to pinch the Russians somewhat. They are a little bit savage still, or they just climbed down from the trees and probably need to have their hair brushed and their beards trimmed.”<sup>15</sup>

A prefrontal cortex insult also involves the brain's decision activities such as reasoning, planning, organizing, and strategizing, key components of leadership.

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### **Brain – Movement Loss = Compensation**

Brain neurology is primarily embedded in the first year of life. Putin's neurological development was significantly interrupted in infancy. Analysis of adult hardwired movement patterns such as his which remain consistent over a lifetime and can offer visible evidence about which patterns are fully wired, which are more dominant and which may be latent. Although, brain scanning through a fMRI presumably can not be conducted upon the Russian President, the links nonetheless to behavior, the brain and movement can be traced and act as a foundation from which to design a future scientific test of such correlates on other subjects. Moreover, as a real world subject, Putin continues to display the kind of powerful compensatory patterns simply not well understood in the history of some of the world's most authoritarian and unpredictable leaders. This warrants further investigation as well. Putin's behavioral profile (and continuing presence on the world stage) offers obvious data for tracing the nature of physical and emotional compensation and their implications politically and behaviorally.

When developmentally a profound capacity is missing as in Putin's case, due to the early trauma and neurological abnormality, excessive control at all costs and hard work have buttressed his lack of social and perceptual skills. The inestimable sources of human potential and plasticity in the face of profound loss have enabled him to function, albeit, with compromised neuroception and expressive capabilities.

Putin's overall approach to governance, driven by a need for extreme control, amassing personal power and an excessive attention to detail has today brought Russia a unique

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<sup>15</sup> Ibid, p.51.

social contract. Apparently, the Russian are people feeling slightly better off. The long term effects however of eradicating any previous “ether” of human political freedom is heretofore unknown and a source of concern among many experts.

### **Physiological Loss Of Freedom—Origin of Extreme Political Control**

Putin lost “freedom” in the most basic behavioral sense when so early in life he suffered the neurological insult. If a brain MRI scan could be conducted, we could confirm that the left hemisphere insult to the prefrontal cortex of the brain took place which would also roughly corresponds to movement patterning and neurological enervation related to the forebrain as well as other brain areas. Aspects of this layered process of development begins as early as birth and surges in the last half of the first year of life.<sup>16</sup> Enervation triggered by movement begins in the lower brain, proceeds to the spinal cord, then the midbrain and emerges finally in the forebrain’s myelination. Such developmental patterning in the brain as elsewhere in the body -- is an overlapping and at times uneven process -- with certain patterns emerging, then disappearing and others remaining constant throughout life.

If we analyze Putin’s movement patterning today, we clearly recognize that he did not crawl. This means contralateral movement and other final neurological patternings that emerge around ten months and integrates right left brain function, are missing. Moreover, the lower brain and spinal reflexes in Putin’s case are partial. For example a basic neurological pattern called “positive supporting” of the upper extremities is missing. This lack of distal initiation can be easily seen when Putin struggles to maneuver himself off the judo floor. This missing neurological pattern<sup>17</sup>, another very early movement marker, typically embedded at about 2 months is physically about “reaching out” as well as “self protection.”

Putin is likely compensating for these missing synapses by imposing a sense of control to feel unified and literally held together and protected. Control at this level, which represents his baseline, will however over time have diminishing effectiveness. He will need to seek recuperation in order to maintain a longterm sense of balance. Coping with such a profound personal physical and perceptual obstacles, results, in arguably, Putin’s imbalanced sense and exercise of power.

### **Control and Crisis**

Putin’s compensation patterns of control reflect both an inner and external imbalance. During crisis, to stabilize himself and his perceptions of any evolving context, he can

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<sup>16</sup> The reflexes of symmetrical lumbar reach, asymmetrical tonic lumbar and asymmetrical lumbar reach begin enervating at birth. By month two, visual placing of first the upper and then lower extremities occurs. The most recent research recognizes that movement neurological patterning and especially the absence of upper extremity integration correlates to a wide sample of autistic infants and children and more future research is warranted.

<sup>17</sup> Bonnie Bainbridge Cohen has been re-patterning autistic children for decades. She clinically notes a common missing pattern among this population is the homologous push of the upper extremities, which in Putin’s case seen in his judo performance, is not integrated.

revert to imposing extreme control upon potentially all contexts. In his case, it is basically a reflexive physical action as well as a cognitive emotional response. Such abrupt behavior can be compounded by his tendency to withdraw from social stimulation as he did at the time of the Kursk nuclear submarine incident. These behavioral responses also relate to the absence of his social engagement faculties and a strong reliance on the fight, flight and freeze responses.

Putin's movement profile reveals an excessive amount of time spent attending to detail in a very real sense to make sure he thoroughly knows what is out there. Unlike other leaders, who can simply trust more the descriptive nature of context and interact with it in the moment, Putin's movement shows he fastidiously studies all the details – to make sure he's "got it right" and is literally on solid footing. This can make for a slow decision cycle, potentially disastrous during crisis. Putin revisits and returns to square one continually until he knows all the facts. But more dangerous in crisis could be if his system returns to the earliest stage, when he reverts to the most primary stage of adaptive behavior -- to freeze. This was his response, when so soon into his administration, when the aforementioned Russian nuclear submarine, the Kursk sank. His response then was to do nothing.

Putin's fight or flight reflex kicks in when he personally feels threatened or when approached to take actions that make him uncomfortable. Such was the case when oil tycoon and democrat, Mikhail Khorodovsky took a high public profile on reform. Putin fought him and put Khorodovsky in prison.

Putin's extreme centralization of Russia's legislative and judicial systems under his near control too is an isomorphic example of needing to ultimately control the levers of power. This includes how other people perceive him and Russia which early on he managed to do through his takeover of all conceivable press outlets.

Carrying such neurological challenges often make an Asperger's subject, like Putin, very self referential. Observer's were bewildered two seasons ago when Putin suddenly after examining New England Patriot's owner, Bob Kraft's super bowl ring, Putin actually pocketed it. Bewildering too, is a word that may describe Time Magazine's team account of Putin's social skills or, obvious lack thereof. Here's the account of their final moments with the man they call "Tsar of the New Russia."

"Back at the Dacha, with snow falling outside, our dinner and discussion continue. Putin has been irritable throughout, a grudging host. Suddenly, at 10'o'clock, he stands and abruptly ends the evening. "We've finished eating, there's nothing more on the table, so let's call it a day." he declares. Actually, the main course (choice of sturgeon or veal) and dessert ("bird's milk" cake) – lovingly printed in gold ink on the prepared menu cards—haven't yet been served. The Russian President's brusqueness is jarring. Have our questions angered him? Bored him? Does he have another appointment? It's not clear. "Bye

bye” says Putin –in English—as he walks briskly out of the room. The work of rebuilding Russia, apparently, is never done.”<sup>18</sup>

### **2008 Vladimir Putin- A Personal and Political Work in Progress**

Putin strives, due to his abnormality, for a wholeness for himself and by extension, now as national leader, for Russia to regain it’s former unified glory. His December 13, 2007 declaration of his preferred successor, Dimitry Medvedev was followed by a two day summit to Belarus, the oncc, and in Putin’s design, future “White Russia.” Putin’s next agenda maybe a re-merger of the two former Soviet Republics which may take some time, but by 2012, operating from a shielded public limelight as Prime Minister, he may do so continuing along the lines of Time Magazine’s 2007 characterization of him as “Tsar of The New Russia.”

If he remains four years in the number two, prime minister position, this enables him to still maneuver in fulfillment of completing the self, a life long unconscious process. By extension, he can continue his vision of a return to a former and greater Russian, while plotting his own future.

### **Prime Minister Role – Offers Behavioral Relief**

The plan to step into the Prime Minster’s slot, allows him a continuing reign on Russia’s ultimate power while offering him the badly need relief from the very public ceremonial role of president which challenges his autistic condition so much. Putin has made known his intent to continue residing in the presidential house. This makes sense behaviorally as this home environment is now familiar to him and brings him a badly needed sense of physical comfort as well as power, status and control. Putin, by temperament as well as through skill, excels in number two positions as he did as Deputy Mayor of St. Petersburg. Overseeing a portfolio in the “number two” position is also certainly familiar (with an added benefit of shaping the nearby presidency, occupied by “his man, Medvedev.”)

### **Compensation as a Source of Unique Leadership Style ?**

Moreover, Putin’s lack of physical integration robs him of pure physical determination which explains his extreme compensatory effort, control and yearning for power. It also affects his peculiar sense of time. He lacks any true sensibility in regard to pacing<sup>19</sup>. What Putin *has learned to understand* about time is basically -- the need to do what is necessary -- to remain -- in control. Putin’s default is to extend his time indefinitely in power until he can accomplish “his agenda” which is in part conscious, and in part unconsciously driven.

### **Control And Vulnerability**

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<sup>18</sup> Time, p 62.

<sup>19</sup> ●ur physical relationship to time is enervated deep in the inner ear’s vestibular canals which in Putin’s case according to Porges may not be hooked up.

However by paying such minute attention to detail, he may easily miss the big picture and could also ultimately become vulnerable to a presumed loyal insider, a traitor gaining power. His difficulty interpreting emotion and building actual trust could result in someone close to him and presumably “trusted,” eventually betraying him, circumventing his scrutiny to ultimately undermine him in some subtle or eventually obvious way.

### **Testing The Template**

Putin’s abnormality and its affect on his governance is so apparent, it becomes a prime template for more general research analysis and the eventual interpretation of how the brain and central nervous system develop, in part, through the unfolding of basic neurological movement patterns. Scientifically, the movement brain and decision template offers a basis for empirically testing human movement patterning’s developmental effect on brain function, and, by extension – human decision making, including our potential to predict it. Putin’s recent decision to hold on to power confirms an earlier prediction by this investigation. Moreover, his continuing presence on the world stage provides a rich ongoing basis to confirm other previous project hypotheses about his behavior. An individual’s leadership potential and the degree to which compensation may play a role can also be determined through this approach. The findings would be applicable to all leaders. The next deliverable will outline such a scientific approach and the means of testing it with application of reliable measures made to real world assessments

Finally, appreciating more specifically what a leader intrinsically carries gives political scientists a measure to better interpret behavioral baselines in relation to strategic context and national culture. Movement is an enervator of the brain which reflects ultimately leadership potential. For the national security community, appreciating the actual significance of the role of movement also offers a potential for intervention and re-patterning of individuals in (or on their way to) powerful positions. As such, understanding better those links, their significance and their potential to predict behavior and decisions -- is as potent an instrument -- as an evolving weapon system.

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### **Putin’s Movement Decision Drivers Are An Extreme Attention To Detail And Excessive Control.**

Because he never fully arrived at the final stage of contralateral developmental patterning, he has difficulty walking, reaching, initiating from his center of gravity (the body’s source of human power) in the torso. He is not solidly in touch with the ground through the legs and feet. Such holding poses great hurdles to his perception and decision making. Because of the splitting of the body mind unity, physically (and emotionally), he

actually struggles with managing power personally and politically. On a very deep level Putin overall feels a constant level of vulnerability and threats to his balance are very real psychophysically and perceptually.

Putin's compensation patterns of control reflect this sense of inner and external imbalance. During crisis, to stabilize himself and his perceptions of any evolving context he reverts to imposing extreme control. In his case, it is basically a reflexive action.

However by paying such minute attention to detail, he may easily miss the big picture and could also ultimately become vulnerable to a presumed trusted insider-traitor usurping power. His difficulty interpreting emotion and building actual trust could result in someone close to him and presumably trusted, circumventing his scrutiny to undermine in some subtle or eventually obvious way, his power.

Putin's abnormality is nonetheless supplemented by an innate human drive to become whole which he accomplishes through control. His sense of time is peculiar in that his lack of developmental scaffolding robs him of any anticipating or pacing initiative in terms of time other than to do what is necessary to remain in control. Putin's default will to extend his time indefinitely until he can accomplish his large and unfilled agenda of fulfilling a deep sense of wholeness for himself and that Russia's and its former glory. His December 13 declaration of his preferred successor, Dimitry Medvedev was followed by a two day summit to Belarus, once, and in Putin's design, future White Russia. The agenda a re-merger of the two former Soviet Republics.

### **Some Behavioral Relief In Being , the Number Two Position Prime Minister**

Putin is and likely always will be a personal "work in progress" And as his personal identity seems now inextricably engaged with running Russia (as often happens with leaders, such as his predecessor, Boris Yeltsin) Putin's personal drive to unify and control at all costs will remain the national agenda for as long as he wields such power. Phenomenologically with the Russia cultural and political context, will not wane, however. This combination, the phenomenon that Russia seems to desire and thrive in spirit on authoritarian leaders explains the contextual potency and potential for gaining even more momentum.

If Putin occupies the Prime minister's position with Medvedev as President, while he may potentially call the shots from behind the scenes. And rumor has it he will do so still residing from the Presidential residence. Apparently he does not wish to move and familiarity is indeed very important behaviorally for his feeling safe and trusting. Remaining in his current home provides a needed sense of familiarity as does basically overseeing a portfolio in the number two position, that too he has mastered in a sense. What is unexpected are potential benefits of his being in the number two position. at least publicly, offer him a sense of the familiar. Putin by temperament as well as skill excelled

in number two positions as he did as Deputy Mayor of St. Petersburg. Also perhaps more significantly, is that in that position he gets relief and is shielded somewhat from being in the public ceremonial limelight which causes him great stress. Coping with the Asperger's condition, this too will be a relief in terms of his moment to moment behavioral challenges.

New neurobiological theories about the evolution and structure of the brain and the central nervous system claim that our evolutionary hard wiring (typical of fish and reptiles) equips humans beyond these two basic adaptations to flee; and to fight or flight. A third developmental stage has evolved relying upon the central nervous system, in particular, and the cranial nerves which wire neurological functioning to the head and face and affects our hearing, seeing, voice and facial expression: in short our social engagement skills.

This maturation of these evolutionary hard wiring links the nervous system specifically to the middle ear, face: our eyes, mouth and voice. In short, the cranial nerve hooks up our auditory, visual and speaking centers priming us for social engagement. This new 2004 Poly Vagal theory says that our CNS is not as previously believed "balanced," but instead is organized to respond to threat and stimulus in a sequential fashion. Humans primarily rely on the benefit of these third stage social functions to negotiate interactions with the outside and inside worlds in the basic process of decision making. However, when under severe threat or danger, the system is designed when appropriate to sequentially triggers backward to an earlier stage: fight/ flight or flee. In some humans, due to myriad processes the third stage may not have been fully myelinated thus perception and social skills are not as responsive at level and the nervous system will resort to earlier less mature adaptation.

In the case of individuals, whose CNS are not as completely hooked up; their neuroception may be gauged at the pre- mammalian, pre social engagement status permanently neurologically hinged at the fight or flight or flee modes. (For most humans these are the response we use typically for extraordinary emergencies beyond when social engagement processes fails.)

Nonverbal communication evidence suggests that Russian President Vladimir Putin does not yet have benefit of the entire CNS systems cranial nerve myelination which would serve to fully engage his social systems. He operates and his decisions are arrived at through a more primitive perceptual and social filtering system. Putin's behavior according to leading autism specialist, psycho-biologist Dr. Stephen Porges of the University of Illinois Brain Body Center reveals Putin carries a form of autism, a pervasive developmental disorder called Aspergers Syndrome. His eyes gaze, facial expression, voice and hearing also reflect profound neuroception challenges. Theoretically, this effects his social engagement and defense behaviors, including, sensing whether the environment is safe or, others trustworthy.

Putin developmentally is supported at the reptilian stage of development where the need for order proceeds all interaction.<sup>20</sup> His primary coping strategy is to control. Once Putin has made a decision it may be very difficult to persuade him to act differently. These issues may have profound implications for his personal interactions, decision-making and especially, crisis management. During crisis, Putin coping with his control without typical social comfort may become stubborn or stymied. His neuroceptive problems can also manifest at the other end of the defensive spectrum such as “fight” triggering an aggressive reaction.

Putin, behaviorally (in spite of his appreciable performance skill when he is inclined to try,) copes with hypersensitivity, social shyness and behavioral withdrawal from social stimulation

Putin is likely most comfortable with routine, and personally struggles with novelty such as the Time Magazine interview. In any context, he benefits by a reduction of certainty, a difficult condition in most political social settings.

Intervention can change the fabric of such individuals. Which brings us back to the origin of this study the potential of movement as an analytic and intervention tool tool movement. Putin lacks distal initiation seen in how when he holds a pen his fingertips do not fully touch the pen.

A proposal to test the movement brain template drawn from this preliminary study will be presented in the next deliverable with application to the study of all leaders. Through such testing, evidence in regard to the neuroconnections of movement will be determined and the reliability of movement indicators to the brain further delimited and their reliability tested. The movement samples for analysis on this subject, the Russian President and all leaders come potentially from open source materials. As these patterns are consistent over a lifetime, assessments of the leadership potential of individuals ranging from chiefs of state -- to terrorist -- to rising military officer -- can be made before an individual assumes responsibility; before a leader comes to power (and throughout their tenure;) before a flag officer is assigned his next command; and could help avert the potential actions of a future terrorist.

In regard to future applications, such study can diagnose and offer proscriptions on how to more fully interact with such leaders as Putin, especially those whose neurology so significantly affects their behavior and decision style. Likewise, when an upcoming american leader is available for testing and intervention this approach once more fully tested can be used to refine the movement neurological template in order to enhance leadership potential and enhance decision style. Simultaneously, the empirical knowledge base derived from this investigation provides new evidence into modes of learning about and coping with adversaries with the ever increasing potential of more accurately predicting what they may do.

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<sup>20</sup> In an interesting validation from an entirely different source, *Echo of Moscow* editor Veniditov says “For Putin order precedes everything else in the social contract.”

Time Magazine's 2007 Man of the year, Vladimir Putin was described as "charmless", "irritable", "tough", "aggrieved" and "defiant" yet "adored by his nation." Recommendations on how to exploit the delicate balance of the complex and contradictory aspects of his character and how effectively to relate to him within interactions are posited and will be more fully explicated in a September 2008 deliverable.

Furthermore, since such patterns are so consistent, speculation on how they will effect his governance in the number two role as Russia's Prime Minister beginning March 2008, will also be discussed. For example, Putin may benefit greatly from not being publicly in the number one position. For him, balancing his unique personal needs along with those of Russia causes him behaviorally a great deal of stress emotionally and cognitively. In the long run, adoring Russians may reflect that while their President established a sense of stability over the past eight years, his actions served to also undermine an evolving if fragile national infrastructure that may have ultimately provided the nation long-term more global opportunity and the people more individual freedom of choice and rule of law.

The early and profound handicap that shaped Putin the man, apparently deemed his self image to reflect someone who needs to be seen by others as "getting it right." Because of his handicap both physically and psychologically, Putin is not circumspect developmentally of what entirely is around him and as a form of compensation, he is an astute investigator of information, forced to unconsciously see as much as possible from a relatively early developmental perceptual lens. Because of his investigative prowess, in terms of what he considers important, he may remain a brilliant designer of the whole --as he relates to it --but his handicap inhibits him from any visionary potential. What Putin has accomplished both for the nation is based on what in the past he believed was good for Russia and what in the present he can assess as concretely valuable and that can literally be stood upon. More abstract values are not as aspect of his mainstream perception.

Vladimir Putin will never be very comfortable publicly presenting his ideas to large audiences or even small groups such as the Time Magazine team, who recently interviewed him.

Putin's movement and neuroception loss amounts to a leader who simply lacks trust in human interactions. And by extension the world experiences his appreciable lack of dynamism or charisma. Putin is more behind the scenes a team leader in that, he has to rely on trusted others to control ultimately because many intrinsic leadership skills are simply not present. Those that work with him in Russia or, from abroad like US officials will likely benefit by offering him recommendations that proffer a set of tested data that result in one outcome and alternatively, another recommendation with facts that may produce a different outcome -- in order to get his attention. Otherwise, unsubstantiated recommendations may be lost in his perceptual system that simply has trouble taking in information differently. Taking on action for action sake without an exhaustive fact sheet on most matters is not advised and would likely be dismissed. Why? On face value, Putin can not take on movement, moving or actions based on just a simple sense of trust.

Taking movement risks on such face value is unknown to him because his physical architecture and embedded nervous system are simply not wired in such a way that affords him to move or take action so purely. And any type of learning for Putin will involve the same perceptual processes. Putin takes a good deal of time to form a perspective accomplished through in part the reliance on others in a sense as a form of personal compensation for what he can not entirely perceive.

While known as the top and sole power broker in modern Russia, he's actually by necessity a team leader. Behind the scenes trusted aides can come to him and offer recommendations that promote a choice between alternatives. Putin's nature is not an action man for the sake of making decisions. He has to be solidly rooted in data that will actually make a difference. Just as his movement disability makes it imperative that he sense solidly that where he is -- is indeed on solid ground. How much he can trust others in the room with him depends a great deal on his own fragile sense of self trust. His neuroceptive challenge that makes him prone to social withdrawal and thus mistrustful.

In terms of achieving some sense of overall Russian stability, Putin achieved this through harnessing oil reserves and enabling the people to experience a greater sense of stability and hope on one level. And after the tumultuous Yeltsin years, that was what the Russian people welcomed. Seeking other forms of stability through centralization of control of basically all sources of power seen in most basically the reversal of democratic reform in order to centralize all sources of power reflects his very personal aspect of his self image—a psycho physical self that needs so clearly to feel unified and fully conscious of his center of gravity and power.

Putin's lack of psychophysical stability requires that he impose a sense of deep control and willful power over his every conscious move in order to simply remain balanced. This self referential perception is the same lens that he focuses on in the larger effort or as he takes what he needs to do as Russia President. As this present chapter of his Presidency now comes to a close, in many ways his handicap has peculiarly served him and Russia in the short term, well. Both the man and the nation badly needed a sense of stability and control. In the long run however, Putin in the Prime Minister's job out of the day-to-day spot light of many ceremonial activities which tax his Asperger's condition, may find him less preoccupied with extreme control. In terms of his developing a deeper sense of trust with the West and the US, that level of bonding may never be accomplished. Developing a closer bond with the likely next President, Dmitry Medvedev may sway how decisions are taken in the future. Moreover, Putin, in the number two role, with a basic fort to be overly analytical, is inclined to miss opportunities. There is also the potential that someone maybe behind the scenes but close by among the Kremlin's warring offices in the Executive offices could undermine his base. Putin's track record for removing such threats at any cost is well known. Under a different although handpicked successor, such as Demitry Medvedev, Putin's ultimate power over who stays and who goes, if Mededev is a "conscious" leader and aware of his predecessor's liabilities, things may change.

In terms of long term influence—Putin’s own sense of self is a work in progress—because he has such profound neurological loss and extreme forms of compensation and a tremendous willfulness, if he continues to see Russia as an extension of himself -- with his peculiar personal sense of time then the work on then nation will remain also a long term project for him. If he succeeds in dominating Medvedev then he might indeed try to return in 20012.

Putin’s hardwired personal style is likely to change very little. The fact that he has less public pressure in the moment to moment in spite of the expectation that he will still be ultimate power – may offer him some slightly different perspective and perhaps different opportunities for Russia. For these reasons he may be quite effective in doing a great deal of ground work behind the scenes and watching Medvedev be the front man.

As for Putin’s fate, his extreme sense of control and perceptual narrowness could ultimately cause him to miss opportunities and misread adversaries. There is the potential for someone behind the scenes and within the inner circle with a different vision for Russia ultimately to attempt to take matters into their own hands.

## **TECH SUMMARY 2**

His eyes gaze, facial expression, voice and hearing also reflect profound neuroception challenges. Putin is supported at the reptilian stage of development where order precedes all interaction.<sup>21</sup> and his coping strategy is to control. Once he has made a decision it may be very difficult to persuade him to act differently. Theoretically, this affects his social engagement and defense behaviors, including, sensing whether the environment is safe or others trustworthy.

These issues may have profound implications for his personal interactions, decision-making and especially, crisis management. He may become stubborn or stymied during crisis and his neuroceptive problems can also manifest at the other end of the defensive spectrum triggering an aggressive reaction.

Putin, copes with hypersensitivity, social shyness and behavioral withdrawal from social stimulation. This needs to be respected, if good and “trusting” interactions are to occur. He is likely most comfortable with routine, and personally struggles with novelty. In any context, he benefits by a reduction of certainty, a difficult condition in most political social settings. Intervention can change the fabric of such individuals.

The right side of his body, arm, ribs and leg move with difficulty.

Although brain scanning through fMRI presumably can not be conducted upon the Russian President, the links to behavior, the brain and movement can nonetheless be traced and do act as a foundation from which to design a future scientific test of such correlates. Moreover, as a subject, Putin displays the kind of potent compensatory

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<sup>21</sup> In an interesting validation from an entirely different source, *Echo of Moscow* editor Veniditov says “For Putin order precedes everything else in the social contract.”

patterns simply not well understood in the history of the world's authoritarian and unpredictable dictators. Putin's behavioral profile offers obvious data and further investigation into the nature of basic neurological patterning could offer unprecedented insight for tracing the nature of compensation. In spite of the relatively insurmountable obstacles, the unique and underestimated sources of human leadership potential are traceable and better explained when we can recognize which neurological pattern is dominant and which are latent and instead being compensated for by others.

Moreover, appreciating more specifically what a leader intrinsically carries gives political scientists a measure to better interpret that baseline in relation to strategic context and national culture. For the national security community, a better understanding of how certain unconscious human processes such as decision style --on face value--are generated and reflected in movement as a functional expression of the brain --is as potent behaviorally as an evolving weapon system.