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THE SCIENCE OF ACTING IN THE RUSSIAN THEATRE AT THE BEGINNING OF THE TWENTIETH CENTURY – FROM THE MODERN EPOCH TO THE AVANT-GARDE

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Abstract

K.S. Stanislavsky's System remains the basis for actor training in conservatoires in the UK and more widely and Vs. E. Meyerhold's Biomechanics is increasing in popularity as a training method in the twenty-first century. Both methods were rooted in scientific understandings from the modern epoch to the avant-garde, so it is important to question how this remains relevant to today's practice. This essay explores responses to Diderot's *Le paradoxe sur le comédien* (*The Paradox of the Actor*) in Russia from the nineteenth century to the 1930s, which, essentially, questioned whether "head" or "heart" should be primary in acting. A.N. Ostrovskii and P.D. Boborykin discussed this question from the 1860s in relation to the new science of I.M. Sechenov, which theorised generating emotion by reflex. Reflex theory impacted the debate between "experiencing" and "representation" in acting. The development of I.P. Pavlov's reflex conditioning had further implications for "heart" or "head" and "experiencing" or "representation" debates for Stanislavsky and Meyerhold. In the 1930s, L. S. Vygotsky proposed a new response to Diderot's *Paradox* and N.A. Bernstein's neurophysiology

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pushed against the Soviet Pavlovian paradigm – a new context for reassessment of the great directors' work.

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Keywords: Science of acting; K.S. Stanislavsky's system; VS. E. Meyerhold's biomechanics; Diderot's paradox of the actor; L.S. Vygotsky; N.A. Bernstein

Introduction

The first book in Russian aiming to analyse acting technique on a scientific basis, *Teatral'noe iskusstvo* (*Theatrical Art*), by dramatist Petr Dmitrevich Boborykin, was published in 1872. Responding to the central question raised by Denis Diderot's *Le paradoxe sur le comédien* (*The Paradox of the Actor*) of whether the mind or passion is the primary quality in acting, Boborykin agreed with Diderot's assertion that the mind, rather than feeling, was most important. He hoped for scientific verification in a distant future.

Наше дело – обследовать факты, очищать точною критикой произвольные аксиомы и разглагольствования, собирать как можно больше материалов и сводить из различных областей знания те феномены, которые могут служить закладкой здания научной теории.

[Boborykin, 1866: 102–103 in Kuptsova, 2015: 2017]

(Our job is to investigate the facts, refine arbitrary axioms and lofty phrases with precise critique, to gather as much material as we can and to bring together from the various regions of knowledge those phenomena that can serve as foundations for the building of a scientific theory.)¹

In the first decades of the twentieth century, Konstantin Sergeevich Stanislavsky and Vsevolod Emil'evich Meyerhold, in different ways, aspired to develop the science of acting. How they did so is of significance in theatre today, as their methods and legacies continue to be important in contemporary actor training. If we are to use techniques developed over a century ago, we should continue enquiry about the science on which they were based and whether the methods can now be supported by it. What did Stanislavsky and Meyerhold learn from the beginnings of the science of Russian acting and what was their understanding of the science contemporary to them? Did artists influence scientific thought as well as vice versa? What have we gained from them and what have we misunderstood?

Though Sergei Mikhailovich Eisenstein, Solomon Borisovich Nikritin, Ippolit Vasilevich Sokolov and others also proposed scientific theories for acting in the period, the focus here is on Stanislavsky's System, still the basis for much training in conservatoires in the UK and more widely, and Meyerhold's Biomechanics, which is increasing in popularity in the twenty-first century, certainly in the UK, in other European countries, and in the USA. As Anna Muza (1996: 16) notes in relation to what Boborykin termed "the central question" of the primacy of feeling or emotion:

One of Meyerhold's persistent concerns...was the eternal problem of the inside and outside, inner emotion and external technique. This dichotomy, central to theatre theory, practice, and training ever since *Le paradoxe sur le comédien*, has come into particular prominence in the twentieth century, largely due to the Meyerhold-Stanislavsky paradigmatic confrontation.

Stanislavsky investigated the science of experiencing, where in performance the actor undergoes an emotional experience, which is "truthful" in expression, following "laws of nature". Working to develop a new theatre of the Revolution and a new kind of actor, Meyerhold placed less emphasis on experiencing, giving rise to the perception of a "paradigmatic confrontation" between the two. Meyerhold has even been thought to espouse the school of "representation", where an actor represents, rather than experiences emotion. As Muza indicates, the two were not as opposed as has been thought.

The scientific answer to Meyerhold's concerns and, in the later period, to Stanislavsky's, was seen by many in Russia to lie in the study of Conditioned Reflexes foregrounded by Ivan Petrovich Pavlov (1849–1936). The reflex was a central scientific concept, and, as Irina Sirotkina (2009: 70) writes: "a cultural idiom that could be used to various aims – political, scholarly, and artistic. In Russia in the 1920s, the reflex became a ubiquitous notion and a current word, part of the revolutionary discourse and, finally, a password to modernity".

In beginning to develop his actor-training method, Biomechanics, after the Revolution, Meyerhold connected it with reflex theory. Connections with the science of biomechanics as it was being developed in Russia in this period (primarily by Nikolai Aleksandrovich Bernstein), have not been fully discovered. In 1926, Bernstein (2020: 3) defined the scientific term biomechanics: "In essence, this is the science of how the living machine, that is, each of us, is constructed, of how the moving parts of this machine are arranged and how they work. Knowledge of the living machine is necessary so that, by skilful use of it, the best and most productive work can be achieved".

This knowledge was of great importance for Meyerhold. Understanding of Bernstein's work, like Stanislavsky's and Meyerhold's, has been obscured by

Soviet ideologies, the dominance of the Pavlovian paradigm, and suppression of information. Also, Western theorists have been willing to read actor-training methods in essentially materialist terms, whereas Stanislavsky and Meyerhold's work in practice, and the scientific ideas as they developed, challenged the constraints of Soviet materialism.

Diderot, Ostrovskii, Boborykin, and I.M. Sechenov

The main legacy of the science of acting for Stanislavsky and Meyerhold was in responses to Diderot's *Paradox* in the 1860s, inspired by the work on reflexes by Ivan Mikhailovich Sechenov (1829–1905). Boborykin, who wrote for the Imperial theatres in St Petersburg, was the major propagandist for a Russian national theatre and for Diderot's ideas on acting. Aleksandr Nikolaevich Ostrovskii (1823–1886) created a Russian repertoire with his 47 plays (and 7 collaborations), largely produced at the Moscow Maly Theatre (at one point termed the House of Shchepkin, after the actor whose “natural” style influenced Stanislavsky). He was the organiser and president of the Society of Dramatists and Operatic Composers from 1874, and instigated reform in theatre and training. Boborykin and Ostrovskii's ideas on Diderot's *Paradox* had implications for the discourse on experiencing or representation, and actor training generally, as it continued into the twentieth century.

Ol'ga Kuptsova discusses the impact of *The Paradox* (published in 1830) in the 1860s, in the context of popular fascination with natural science and positivism in Russia. By the 1870s, *The Paradox* was a central topic in theatre theory. Diderot had initially prized the passions or *sensibilité* (the ability to appreciate and respond to complex emotional or aesthetic influences), but changed his mind in the 1760s when, for him, “head was substituted for heart as the mainspring of theatrical emotion” (Roach, 1993: 122). In 1773, opposing the tradition of romantic acting, Diderot asserted that actors must be devoid of *sensibilité*, they should not experience emotion or passion when acting, but should have in themselves an “unmoved and disinterested onlooker” playing from thought and ensuring the performance is consistently at its best (Cole and Krich Chinoy, 1970: 162).

Ostrovskii, too, changed his attitude, “going from the romantic cult of feeling or affect to Diderot's *Paradox* and further – to the intelligent actor”.² Boborykin (1866: 97 in Kuptsova, 2015: 216), affirming Diderot's “disinterested onlooker”, wrote:

Начать с того, что задумать роль и целесообразно обработать все ее подробности невозможно без присутствия чисто умственной деятельности... Страсть, или чувство, суть только импульсы выразительных

движений; но в актере эти выразительные движения должны быть приведены в одно целое, подчинены определенному типу, а это подчинение, это группирование возможно только с помощью мышления.

(Beginning by planning the role and developing all its details in a practical way is not possible without some mental activity... Passion or feeling is only the impulses of expressive movements; but in the actor these expressive movements must be brought into one whole, subjected to a definite type and this subjugation, this grouping is only with the help of thinking.)

Boborykin wrote that the study of the physiology of expressive movements and vocalisation would serve as the starting point for developing the science of acting, but “[...] без успехов научной психологии нельзя связать внешних проявлений тела с духовною жизнью в ее восприятиях и рефлексках” (“[...] without discoveries in psychology it is impossible to link external bodily gestures with the life of the spirit in its perceptions and reflexes”). All this should be studied in connection with social phenomena (Boborykin, 1866: 102–3 in Kuptsova, 2015: 217). Boborykin’s *Theatrical Art* cites a range of scientific and other texts, though, according to G.V. Morozova (1998: 104–5), it lacks concrete advice for the actor.

Sechenov’s *Reflexes of the Brain* (1863) was the support for Boborykin’s and Ostrovskii’s ideas. Sechenov (1965: 108, note 28: 118) cites “the French sensualists” – that is, Diderot, as well as Claude-Adrien Helvétius, Holbach, and Condillac – as the basis for his knowledge of psychology. In 1886, Ostrovskii wrote a plan for an essay “Актеры по Сеченову” (“Actors According to Sechenov”), which includes the assertion that “all acting is a consecutive series of reflexes”. The treatise made a great impression on progressive circles of Russian society of the 1860s, including Ostrovskii, who had met Sechenov personally. The censor rejected the original title, “An Attempt to Establish the Physiological Basis of Psychological Processes”, as it signalled a “radical attack on the philosophical idealism that legitimated the hegemony of tsarism and the Orthodox church” (Smith, 1992: 97) and so it was renamed.

Sechenov developed a view of reflex response, experimenting on frogs and extrapolating from these experiments to human behaviour. He asserted that all manifestations of cerebral activity can be reduced to muscular movement: they are purely mechanical acts (Sechenov, 1965: 3–4). There is no mental element: all movement ultimately originates with sensation, that is, with registering a change in the environment (Smith, 1992: 106). Hence, “*the initial cause of any action always lies in external sensory stimulation*, because without this thought is inconceivable” (Sechenov, 1965: 89). So-called psychological processes are middle terms, linking sensation and motion in the brain. What we

call voluntary movements are essentially reflex reactions; thought and emotion, spiritual experiences, and moral judgements can be analysed as reflex activity. He saw inhibition – the capacity, as he saw it, to resist responding to unwanted impulses and external stimuli – as a physiological capacity in the brain that would “subserve psychological control” (Smith, 1992: 100).

Influenced by Sechenov, Ostrovskii and Boborykin saw the actor’s “impulses” (for expressive movements, gestures, which Boborykin equated with passion or feeling) as reflexes. Ostrovskii noted: “Физиономия вызывает и жест, так как у актера жест составляет все” (Ostrovskii, 1978: 525–526 in Kuptsova, 2015: 214; “Physiognomy³ also evokes gesture since with the actor gesture is everything”). Sechenov argued that there were three processes. Firstly, in so-called involuntary movements (pure reflexes) the brain acts like a machine, e.g. jumping in fright (Sechenov, 1965: 9). Secondly, if a person is “keyed”, as Sechenov (1965: 12) puts it, to expect an external influence on his *feelings*, they exhibit resistance to it: this can be expressed externally or can remain with no perceptible external manifestation because of the capacity for central inhibition. Thirdly, there are reflexes with emotional elements, which because of the emotion are expressed outwardly with more intensity than in more ordinary movements. Such reflexes are named “*psychical reflexes with an intensified ending*” (Sechenov, 1965: 99).

In relation to these processes, Ostrovskii noted: “Рефлексы с усиленным концом – трагическое. Вся игра есть последовательный ряд рефлексов” (“Reflexes with an intensified end are the tragic. All acting is a consecutive series of reflexes”). He went on to propose: “Умные люди с отсутствием жеста – актеры чистого рефлекса (все художники), с задержкой (резонеры, умные, ораторы), с усиленным концом (трагики)” (Ostrovskii, 1978: 526 in Kuptsova, 2015: 214; “There are clever people with an absence of gesture – artistes of pure reflex (all visual artists) and with inhibition (*raisonneurs*, clever people, orators), with intensified ending (tragedians)”).

Sechenov’s theory of inhibition explained not only the arresting power of volition, but also the possibility that past associations rather than immediate sensations could initiate movements. “It was the possibility that sensation might combine and recombine as intelligence and thought. Without inhibition, sensation merely exhausted itself in movement” (Smith, 1992: 103, 109). Sechenov explained memory as our capacity to reproduce sensations in the human consciousness. For example, if we imagine circumstances from the past where we experienced gooseflesh, the effect is the same as the actual sensory stimulation and we experience gooseflesh again (Sechenov, 1965: 77).

Kuptsova discusses Ostrovskii’s ambivalent attitude to the simplified view of experiencing and representation traditional for the mid-nineteenth century, whereby Moscow theatre and primarily Shchepkin was understood as the

“school of experiencing” and the “school of representation” was found on the St Petersburg stage. The suggestion is that this ambivalence relates to Ostrovskii’s desire to subscribe to reflex theory:

пьесы Островского как будто бы давали материал актерам “школы переживания”, но слова самого драматурга, приветствовавшего “представление”, выражавшего сомнения в абсолюте “естественности” и опиравшегося на физиологию (игра – последовательный ряд рефлексов), как минимум усложняют, если не опровергают привычный взгляд.

[Kuptsova, 2015: 215]

(it was as if Ostrovskii’s plays provided material for actors of the “school of experiencing”, but the words of the dramatist himself, welcoming “representation”, expressing doubt that there could be absolute naturalness and depending on physiology (acting is a sequence of reflexes), at least complicate, if they do not refute the usual view.)

In the 1890s, Boborykin also ceased to see sensibility and intelligence (though favouring the latter) as opposites and tried to unite them. The actor needed a kind of “receptiveness”, even “temperament” (a word signifying “sensibility”) though this had to be controlled by the inhibitory centres. Reason and feeling were to be merged harmonically by the “study of human talent and psychic life” (Boborykin, 1891: 28 in Kuptsova, 2015: 221).

In 1879, the Artistic Circle, (Ostrovskii, A.G. Rubenstein and Maly actor M.P. Sadovskii) set up Dramatic Courses, where, as they claimed, actor training would be based on scientific method. The course director Boborykin set as the pedagogical aim achieving a “conscious creative process” (Morozova, 1998: 85). What this meant is not entirely clear. Sechenov (1965: 78–9, 61) had discussed the child’s capacity for imitation or “aping” and the development of articulate speech and intelligent movements through repetition of reflex responses. With this in mind, as well as his experience of working with various types of actors from St Petersburg and Moscow, Ostrovskii concluded that theatre schools should select boys and girls who have something to offer, some innate ability or talent. Ostrovskii acknowledged, nevertheless, that no-one is born an actor and a training school must develop and perfect abilities so that appropriate gesture and tone in acting will follow an internal impulse, “purely by reflex” (Svetaeva, 1973: 99). Sechenov stated that thanks to the faculty of instinctive aural and visual imitation, the child develops the activities of different groups of muscles through frequent repetition of the same reflex. This makes the child’s speech articulate, as, at the same time, external body

movements become intelligent (Sechenov, 1965: 61). The notion of repetition, inculcating reflexes, suggests instilling habits, seemingly different from the idea of conscious creativity. Ostrovskii discussed the need for constant training, repetition, and drill, in the development of the voice and *plastika* (plastic movement) to equip the actor with stage technique.

In summary, at the beginning of Stanislavsky's work, the science of acting in Russia prioritised "head" rather than "heart" and seriously considered emotional expression in terms of Sechenov's reflexes. As Boborykin acknowledged, the work was far from completion and a verifiable theory was still far off.

The System and Science

In developing the science of acting, Stanislavsky was the first to investigate actor training in a comprehensive and systematic way, over a lifetime. The scientific underpinnings of the System have been discussed by a number of writers in English.⁴ In assessing his and Meyerhold's view on the internal and external, *perezhivanie* (experiencing) and *voploshchenie* (incarnation or embodiment, Stanislavsky's other key term), and on experiencing as opposed to representation, not enough attention has been given to the influence of the burgeoning science of acting in the nineteenth century.

Unlike Ostrovskii, Stanislavsky was not ambivalent about experiencing versus representation, but from the beginning of his work saw experiencing as the fundamental concept in what, in Morozova's (1998: 38) view, came to define Russian national theatre. The use of the System was in training actors for predominantly (but not exclusively) realist, psychological theatre. The route to experiencing was mainly through voluntary action, the actors' tasks, what they wanted to do as the character. Stanislavsky had revised his approach after early, not very successful experiments with directly evoking emotional memory to infuse a role with truth. Experiencing is key to the creation of "the life of the human spirit" on stage, conveyed in artistic form with corresponding embodiment (Stanislavskii, 1988–1999, Vol. 2: 62). Ostrovskii (perhaps indicating here also his ambivalence about experiencing) used a similar phrase: "Чтобы зритель остался удовлетворительным, нужно...чтобы актеры, представляя пьесу, умели представлять еще в жизни, то есть, чтобы они умели жить на сцене" (Svetaeva, 1973: 98; "For the audience to be satisfied it is necessary...for the actors presenting the play to be able to present in life, that is, so they know how to live on stage").

It is widely known that, in exploring how authentic emotion or feeling could be evoked in this "life" on stage, which would be conveyed to an audience (evoking compassion for the plight of the characters and the human

condition, in accordance with Stanislavsky's worldview), Stanislavsky read the work of experimental psychologist Théodule-Armand Ribot (1839–96), who was influenced by British Associationist philosophy. Ribot's work confirmed for Stanislavsky that emotional or affective memory enabled the actor to “live” on stage, experiencing personal feelings which were not the same as in life but analogous to this (Stanislavskii, 1988–1999, Vol 2: 244; Vol 4: 55).⁵ Stanislavsky studied Diderot's *Paradox* (among other acting texts) from 1914 and returned to it after the Revolution, when it was translated for the second time into Russian with a foreword by A.V. Lunacharsky, who wrote that Lenin had praised Diderot as a materialist, a realist, and a naturalist (Diderot, 1923: I–IV).⁶ Diderot concluded, in relation to *mimesis*, the question of how the artist imitates nature and how the audience participates in this, that true art does not really create an imitation of reality at all, but rather an illusion of reality: “Each artist casts this illusion by skilfully selecting details from observation or memory, recombining them in his imagination, and then finally expressing them in the materials of his chosen medium” (Roach, 1993: 125).

Stanislavsky, confirming his own view of “analogous” feelings, wrote that Diderot said that “you cannot experience the same feelings as you do in life, he says that [...] you can live with actual born again feeling, he says what we say, that you can live with affective feelings” (MKhAT, K.S. Archive 833: 24).⁷

While Stanislavsky's central concept in acting, unlike Diderot's, was experiencing, based in affective or emotional memory, this has to be processed, so there is a role for “head”. Emotion should not overwhelm Stanislavsky's actor any more than Diderot's actor should be dominated by “sensibility, soul, passion”. If so, according to the latter, the actor might “give one or two tirades well and miss the rest”. Great and consistent performance “is a matter for a cool head, a profound judgement, an exquisite taste, – a matter for hard work, for long experience, for an uncommon tenacity of memory” (Diderot, 1883: 95–6).

The equivalent of a “cool head” for Stanislavsky and his development of this concept was in the “freedom and a lack of tension in the muscles at emotional high points” (Stanislavskii, 1988–1999, Vol. 1: 145) that he observed in great performers who were in control of their emotional expression. He had the insight, citing Ribot's work on attention (in which Ribot drew from psychiatrist Henry Maudesley), that “the person who is unable to control his own muscles is incapable of attention” (Ribot 1911: 1). For Diderot, a “cool head” is “possible because the mind can do two things at once”; its components are like a stringed instrument which vibrates, and the “resonance keeps an object present to our minds while our understandings deal with whatever of its qualities we please to study”. According to Roach (1993: 148, 145), the equivalent of “affective memories” for Diderot was “vibratiuncles”, embodied emotional

expression; the actor can train to develop this expression. Stanislavsky wrote about the capacity for multilayered attention (Stanislavskii, 1988–1999, Vol. 2: 175). His answer to Diderot's *Paradox* could be said to be that true sensibility is the actor's capacity for experiencing, while observing themselves at the same time, checking for and freeing themselves of superfluous tension (Stanislavskii, 1988–1999, Vol 3: 189). The development of a "muscle controller" enables full attention and the "creative state", the spiritual dimension required for great acting.

In the period of the Revolution, Ribot's work and psychology in general was denounced and Pavlov's work on Conditioned Reflexes became the paradigm for Soviet science. Sechenov's main legacies, after his death in 1906, were in his development of the idea of central inhibition and in the physiology of work, as his aspiration to demonstrate that the brain was a machine and all aspects of mind could be understood in terms of reflex action proved unviable. Yet Sechenov "redescribed the reflex as the basic analytic category for both brain and mind, so that it could serve to found a biological psychophysiology – later to be developed by Pavlov – in the most complex as well as in the simplest aspects of animal and human life" (Smith, 1992: 105).

Pavlov aimed to investigate the physiological laws of human psychical activity and to include psychology in the sphere of natural science. Unlike Sechenov, he was not a strict materialist, but "was simply reacting against the subjectivism of the psychologists of his day. His aim was to demonstrate the close interdependence of psychical activities and physiological reactions" (Cuny, 1964: 13–14).

The central thrust of the theory of conditioned reflexes was the investigation of how an animal adjusts to a changing environment, in accordance with evolutionary theory. Though Pavlov's experiments were on dogs, he thought that his work would result in an understanding of human behaviour. In his view, reflexes were acquired through education, cultural association, and personal experience; another way of describing these is "habits". Each thought causes us to create new reflexes. Our reactions to people are conditional reflexes. Memory, Pavlov believed, is formed of acquired and innate reflexes (Cuny, 1964: 40), whereby a "trail" or pathway is beaten out in the brain so that reactions and movements can be repeated.

After Stalin came to power, Stanislavsky was encouraged to reframe his theories in line with materialism, to stop using the term "affective memory" to dissociate himself from Ribot and psychology and to learn about Sechenov and Pavlov. Though cast in physiological rather than psychological terms, what Sechenov wrote about the recreation in the imagination of past experiences producing the same effect as actual sensory stimulation, with the example of gooseflesh, is comparable to Ribot's view. In 1930, Stanislavsky noted from

Reflexes of the Brain (Sechenov, 1965: 3) Sechenov's statement that the brain is an organ of the spirit and not vice versa; it is a mechanism, which if brought into action by a certain cause ultimately produces a series of external phenomena that are expressions of psychical activity. These can be reduced to muscular movement. Examples are of a child laughing, a girl trembling at the first thought of love, Newton writing scientific laws (even intellectual work is expressed through muscular movement). Hence, all the characteristics of the external expression of the emotions and passions are the result of muscle contraction, that is, mechanical (Zapisnaia Knizhka, 1929–1932, MKhAT K.S. Archive 544: 43).

Sechenov (1965: 88–9), in his denial of mind, differed from Ribot in saying that although thought is generally accepted as the cause of action, “the initial cause of any action lies in external sensory stimulation because without this, thought is inconceivable”. As noted, emotions, too, are, “in origin, intensified reflexes”. Sechenov (1965: 101) writes that what he calls “wishing” (*khotenie*) is the element of striving for the completion of a reflex, i.e. to satisfy an emotion, and in cases of stronger emotion, this is termed desire. Life's necessities give birth to wishing and actions then follow.

Stanislavsky, too, discussed wanting or desiring resulting in action in order to fulfil a “task”, “goal”, or “objective” (“задача”), as an actor. But for him, the will is one of the motivators of psychic life, along with mind and feeling, and Stanislavsky's concepts here refer to Ribot's psychology.⁸ The actor's action is goal-directed, voluntary action. Action is internal and external, psychological and physical, and the actor carrying out such an action is active (*aktivnyi*). This new term, *aktivnost'*, appears as one of the bases of the System in manuscripts Stanislavsky was working on in 1935. The actor playing Salieri, when he has decided to kill Mozart, does not play a man in a state of extreme jealousy, but carries out a series of actions, which are both psychological and physical (taking a glass, pouring wine in it and adding poison, and so on) in order to achieve his murderous goal (Stanislavskii, 1988–1999, Vol 2: 218). In Stanislavsky's model, he will experience feeling that is analogous to Salieri's, by means of emotional or affective memory.

Though Stanislavsky included the term “reflex” in his writings and was pressured to renounce his earlier thinking on affective memory, he refused to do so, asserting in a letter to Elizabeth Reynolds Hapgood: “It is untrue and a complete nonsense that I have renounced memory of feelings. I repeat that it is the main element in our creativity. I only had to renounce the appellation (affective) and to recognise more than at one time the significance of memory suggested to us by feeling, that is, on which our art is founded” (Stanislavskii, 1988–1999, Vol 9: 665).

His notion of training and drill, where the inculcation of a skill comes from frequent repetition, can be compared to Sechenov's idea of establishing habits by repeating the same reflex action. Using William James' phrase, he referred to the development of Second Nature. The artist must work to cultivate the habit, for example, of the "muscle controller" until it becomes Second Nature (Stanislavskii, 1988–1999, Vol 3: 459). Stanislavsky's work in practice illustrated "the close interdependence of psychical activities and physiological reactions", the stated aim of Pavlov's work, but he formulated this interdependence rather vaguely. For example, "In each physical action there is something psychological and in each psychological one there is something physical (Stanislavskii, 1988–1999, Vol 2: 258).

In 1934–35 there were plans for a collaboration between the Schools of Pavlov and Stanislavsky, setting up a laboratory to explore the actor's creativity (MKhAT KS Archive 5361–5377). The plans were delayed by Pavlov's death in 1936 and Stanislavsky's in 1938.⁹ The work was carried forward by others, including physiologist P.V. Simonov. In *Metod K.S. Stanislavskogo i Fiziologiiia Emotsii* (1962) he claimed that Stanislavsky's work corroborated and even developed Pavlov's theory of conditional reflexes, particularly with regard to the technique referred to as the Method of Physical Actions, which Stanislavsky introduced in the last period of his life as a form of Active Analysis, where actors improvise a scene from a score of actions developed from preliminary work on the text.¹⁰ The Soviet interpretation was influential in the West through the writings of Sonia Moore, *The Stanislavsky System: The Professional Training of an Actor* (1965) and *Stanislavsky Today; Commentaries on K.S. Stanislavsky and his Method for the Theatre* (1973), which includes a translation of part of Simonov's book. The claim that the Method of Physical Actions was the culmination of Stanislavsky's work was reiterated by western theorists (Roach, 1993: 213) with a materialist reading of Stanislavsky as saying that external action prompts thought (as Sechenov had). "Emotions, feelings, thoughts, and desires do not arise without a cause, and the cause is physical. It cannot be otherwise". Affective memories, in this reading, are conditioned reflexes (Roach, 1993: 210).

In fact, despite the pressure on him, Stanislavsky maintained ideas about emotion and action originating in Associationist psychology rather than reflex theory. He wrote on the physical and spiritual in acting, outer workings which help the inner, and the inner, which influences the outer, experiencing and embodiment, emotional expression and the "muscle controller". As was the case for Boborykin, there was not yet a scientific theory to help him resolve dichotomies in these concepts. Attempts to read Stanislavsky in materialist terms promoted by the Pavlovian paradigm have resulted in misunderstand-

ings of his work,¹¹ but his research and experiments remain seminal in the development of the science of acting.

Meyerhold's Approach to Acting

Before the Revolution, as modernist theatres emerged, new theories of acting were developed in a reaction against Moskovskii Khudozhestvennyi akademicheskii teatr (MKhAT) (the Moscow Art Theatre) and its realisms. Meyerhold experimented with Symbolism, the interest in commedia dell'arte, Futurism, and other avant-garde movements, developing stylised theatricality in performance. Isadora Duncan's new dance and new ideas of physical culture, Delsartism, and Jaques-Dalcroze's Eurhythmics became important in actor training from the beginning of the century as there was growing interest in the "language of the body" rather than text. Meyerhold (1991: 56) called for a new kind of plastic movement, which could convey that which could not be conveyed by words alone, and worked in counterpoint to the text.

Meyerhold foregrounded movement rather than personal experience or emotion in general as he began his studio experiments in 1908, and he developed a broad programme of movement training in the Studio on Borodinskaya in 1912–13. He included dancing, circus and acrobatics, and "plastic gymnastics" crossed with Jaques-Dalcroze's Eurhythmics in *ritmoplastika*. The actor's musicality was important, and Meyerhold drew from commedia dell'arte, pantomime, Elizabethan and Asian theatres with an emphasis on gestural, external expression. Mikhail Gnesin delivered a course on Reading in Drama Musically, Vladimir Sergeevich Solovyov on Commedia dell'arte, and Meyerhold on Stage Movement. Sports of various kinds and athletics were also introduced. The principles for training in the pre-revolutionary period were explained in *Love for Three Oranges* in 1914, including spontaneous control of the body in space with the whole body involved in every gesture, the ability to adapt movement to the space and to music. Each action was to be "imbued with joy, the power of the grotesque [...] and self-sufficiency of form" Meyerhold, 1991: 217).

Despite the new movement-based approaches, ultimately Meyerhold did not reject experiencing though he was against psychologism as the basis for acting (Meierkhol'd, 1968, Vol 1: 134). In an interview in 1913 he rejected the assertion that he belonged to the school of representation, and said of French actor Benoit-Constant Coquelin, who was upheld as an exemplar of the school: "It is known that the famous Coquelin in his work on roles began with the externals but did he not experience them? The difference here is only one of method, in the manner of studying the role. But in essence the talent always experiences a role emotionally, while mediocrity only represents" (Whyman, 2008: 219).

After the development of Biomechanics from the earlier study work, in 1925, in a lecture on “system and methods of acting”, he clarified, in relation to experiencing, that the idea there was some sort of break between his new methods and those of Stanislavsky was mistaken. He writes of the Kamerny Theatre actors as follows:

отмежевывают себя от приемов старых актеров ...и от приемов Станиславского, они попадают в своеобразную стилизацию – приемы акробатической так называемой игры, рассчитанной на четкость движений, на установку тех приемов, которые тесно связаны с тренажом телесным. [...]

Когда говорят они, новые актеры: долой переживания, то они свою игру до такой степени механизуют что попадают в разрыв со своей нервной системы.

[Meierkhol'd, 1925: 44]

(they dissociate themselves from old methods, from Stanislavsky's methods, they fall into a stylised, acrobatic, so-called acting, calculated on the precision of movements, on the orientation of those methods which are closely linked with training of the body. [...])

When they, the new actors say: down with experiencing, then they mechanise their playing to such an extent that they fall into a rupture with their nervous system.)

The movement work involved a conscious approach where the actor was encouraged to analyse their movement. As the Revolution progressed, Scientific Management, the movement for work efficiency developed by American Frederick Wilmslow Taylor was advocated by Aleksei Kapitonovich Gastev as Nauchnaia Organizatsia Truda (NOT) (the movement for the Scientific Organisation of Labour). In developing Biomechanics, Meyerhold became involved with the “Taylorisation of the theatre”, making means of expression “economical, in order to ensure that *precision* of movement that will facilitate the *quickest possible realisation of the objective*” (Meyerhold, 1991: 198). In relation to conscious analysis and thinking through movements, there was the influence of the approach to physical education of P.F. Lesgaft, who developed the scientific foundations of gymnastics, introduced into the teaching establishments in Russia in the late nineteenth century. German and Swedish gymnastics (Stanislavsky had the latter taught at MKhAT) and Slavic Sokol gymnastics had been taught previously. Rejecting the ideas of discipline, correction, anti-degeneration, and strength of will on which the earlier forms were based, Lesgaft's gymnastics were part of a move towards a “natural”,

“harmonic” gymnastics, where the human system should be developed by exercising its parts in a balanced way. What was new in Lesgaft’s theory was the principle of conscious execution of exercises, teaching the student to analyse the results of the exercises. Explanation of exercises was more important than the demonstration. As noted previously, the principle of imitation, where the student actor aims to copy the actor-teacher, had been part of previous training, espoused by Ostrovskii and endorsed by Sechenov’s work, and was the norm in actor training before Stanislavsky. Lesgaft proposed three stages for his Physical Education system, increasing in complexity and development of skill. The overall purpose was to teach the child to master movements consciously and to attain the best results with the minimum energy and time expenditure. Just as in intellectual education, children should not merely accumulate knowledge but be able to apply it (Riordan, 1977: 49–51).

The term Biomechanics was coined in the 1880s related to the work of two doctors, the German Ernst Meinert and the Austrian Moritz Benedikt. In 1910, Lesgaft’s student Dr G.A. Kogan began to teach a Biomechanics course at medicinal faculties, and practical courses for doctors, physiotherapists, and specialists in therapeutic gymnastics. Also in 1910, Meyerhold’s colleague Leonid Viv’en ran a drama course attached to Lesgaft’s Courses. Dr. Aleksandr Petrovich Petrov, sportsman and medical expert, taught on courses in 1918: introducing “biomechanics” probably “at first as a theoretical tool, side by side with anatomy and physiology, then as a convenient foundation for his gymnastics” (Sirotkina and Smith, 2017: 144), building on Lesgaft’s principles. Kogan wrote about work movements and biomechanics as NOT emerged and opened a biomechanical laboratory at Gastev’s Tsentral’nyi Institut Truda (TsIT) (Central Institute of Labour) in the early 1920s.

Meyerhold organised Courses in the Mastery of Stage Production (Kurmastsep) with Viv’en in 1918 (on which Petrov taught), as deputy head of the Theatrical Department of Narkompros (the People’s Commissariat of Public Enlightenment) in Petrograd. The courses included gymnastics, sports, fencing, juggling, dancing, music and singing, Stage Movement (which included laws of movements, work on rhythm, time, development of emotionality), and theoretical studies (which included basic principles of anatomy and physiology). Meyerhold taught Biomechanics himself from the start of his work in Moscow in 1921 at Gosudarstvennye Vysshie Rezhisserskie Masterskie (GVYRM) (State Higher Directing Workshops). This included exercises and études such as “Shooting with Bow and Arrow”, “Slap on the Face”, “Stab with a Dagger”, which have now become canonical in the teaching, some of which were taught in the Studio on Borodinskaya. As the Revolution progressed, Meyerhold continued to reject psychologism, asserting in 1921 that the roots of the new communist dramaturgy lay in the physical culture of a theatre which

opposes to the doubtful psychological law of an outdated pseudo-science exact laws of motion based on biomechanics and kinetics (Meierkhol'd, 1968, Vol 2: 28).

The scientific roots of Meyerhold's Biomechanics have been taken widely to be in Gastev's Taylorism, Pavlov's reflex conditioning as applied to humans by Vladimir Mikhailovich Bekhterev, and William James' theory of emotion, the main idea being that precision in form will result in the right internal experience. Sechenov's idea that by reflex "the initial cause of all behaviour always lies, not in thought but in external sensory stimulation, without which no thought is possible" could be seen to support this assertion. Igor Vladimirovich Ilinsky, who was working with Meyerhold when the biomechanical exercises were developed, explained that the actor should have easily excitable reflexes; "an actor representing fear must not experience fear first and then run, but must first run (reflex) and then take fright from that action" (Cole and Krich Chinoy, 1970: 504). William James sought a physiological explanation of emotions, countering the idea that psychological or mental events, such as the perception of something frightening, cause an emotional reaction. Instead, he said, equating emotion with internal, physiological nervous processes, the emotion is our feeling of the bodily changes following the perception of the "exciting fact" (James, 1890: 449). As Roach indicates, this has been interpreted as, "Any voluntary arousal of so-called manifestations of a special emotion ought to give us the emotion itself". Roach notes that this cannot be equated with Diderot's view of acting, as it ignores Diderot's view of "freedom or mind, or the calm at the centre of the actor". However, he later states that drawing on "the psychophysiological doctrines common to Diderot, Lewes, James, Sechenov, Bekhterev, and Pavlov, Meyerhold's grasp of the salient issue cannot be disputed: 'All psychological states', he wrote in his biomechanical manifesto 'are determined by specific physiological processes'" (Roach, 1993: 148, 200–1). Moreover, Gordon and Law (1996: 36) assert that for Meyerhold "to trigger the sensation of fear, a person would only have to run – with his eyebrows raised and pupils dilated [...] an automatic reflex signifying fear would be felt throughout his body". Pavlov's reflex conditioning is seen here as the means by which Meyerhold's actor develops "reflex excitability".

Meyerhold's understanding of science was questioned at the time and his statements sometimes seem contradictory. It is clear from his explanations of practice, however, that his ideas were not as reductive as Gordon and Law assert, and his perceptions of the "head" and "heart" question involved more sophistication. It is problematic that Meyerhold did not leave an acting manual as Stanislavsky did, whether because in view of the premature end to his life he had no time to create one, or because his "mistrust of words, so characteristic

of his aesthetics, makes a monograph unlikely in his career” (Muza, 1996: 15).

It was of value to Meyerhold, in a revolution whose leadership promoted materialism (though there was development from cruder materialisms to dialectical materialism), and promoted Pavlov’s work specifically, to propose what could be read as a materialist acting theory. As Sirotkina notes, “Biomechanics helped Meyerhold to solve two important and urgent first tasks: the rapprochement of art with life and secondly the verification of art itself by science”. The first task was the “theatricalisation” of life, whereby V.I. Lenin introduced a plan to replace religion with theatre. In 1919, a member of the Revolutionary Military Council and chief of Vseobuch (General Directorate of Universal Military Training) N.I. Podvoisky called for the “theatricalisation of physical culture”, bringing physical activity closer to culture with a mass theatre action. Meyerhold enthusiastically supported his colleague: “It is necessary to bring the theater closer to nature and physical culture and create conditions for the new actor – dexterous and strong” (Sirotkina, 2014: 172).

In relation to the second task, in his 1922 lecture ‘Akter budushchego i biomekhanika’ (‘The Actor of the Future and Biomechanics’) Meyerhold (1991: 199) asserted, using the word “reflex” to signal knowledge of the up-to-date science, that his new theatrical technique was predicated on the actor’s *vozbudimost’* (innate capacity for reflex excitability). Biomechanics begins:

not with experience, not with seeking to plumb the meaning of the role, not with an attempt to assimilate the psychological essence of the phenomenon, in sum, not “from within” but from without; it must begin with motion. This means the motion of an actor excellently trained, possessing musical rhythm and easy reflectory excitability, an actor whose natural abilities have been developed by systematic training.

[Rudnitsky, 1981: 294–5]

In *Amplua aktera* (*The Actor’s Role*), written in the same year, it is clarified that the actor with so-called reflex excitability, like Stanislavsky’s actor, learns to “recreate” emotional experience, rather than it simply being a reflex reaction: “Biomechanical motion is of such a kind that all experiences (such as feelings and emotions) are an inevitable result of its process, if the actor has reflectory or reflex excitability, which is “the capacity to recreate emotional experience in movement, and in words, a task assigned from without” (Hoover, 1974: 297).

In his attribution to Meyerhold of a materialism as extreme, perhaps, as Sechenov’s, Roach asserts that “in the name of Biomechanics [Meyerhold] reifies the mind as a vital machine” (Roach, 1993: 203). He adds that the

Biomechanical études offered the actor preparatory exercise routines in order to condition their neuromuscular responses to peak efficiency, the ultimate purpose being to induce in the actor's body the appearance of Second Nature. It has been thought that Meyerhold, in his Constructivist period particularly, treated his actors as puppets or robots, workers whose motions in time and space could be objectively analysed and mechanically improved. Clearly more than mechanics is involved, and, as Ilinsky concluded, Biomechanics "shows the actor how to control his acting" (Cole and Krich Chinoy, 1970: 506). For Meyerhold, as regards the "head" and "heart" debate, control was crucial and training brought about improvement, involving processes identified by Les-gaft. It was far more complex than drill, the automatic development of Second Nature: "Based on data from the study of the human organism, biomechanics strives to create a man who has studied the mechanism of his construction and is capable of mastering the ideal and of improving it" (Rudnitsky, 1981: 294).

As well as for Meyerhold, for Bernstein, who, in this period, was developing the practice of biomechanics for factory instructors at TsIT, it was crucial to explore how the brain analyses, controls, and optimises motion. Initially, it had been thought that Reflex creates the New Man (Sirotkina, 2009: 71). Gastev thought a new generation of workers could be formed by modelling reflexes, but Bernstein's insights went way beyond this, and in achieving the economy and precision in movement desired by Taylorism, it was not sufficient to drill or condition reflex action. All movements were unique; in a repeated movement such as chiselling, details were different every time; there was "repetition without repetition".

It may be that Meyerhold's understanding of the control of acting went beyond Stanislavsky's, though confusion results from the fact that, like Stanislavsky, he was influenced by the ubiquitous notion of reflex in his explanations. Tarshish discusses "Контрольный Аппарат актера" (k.a.a.) ("The Control Apparatus of the Actor"), a term introduced by actor and director Solomon Mikhailovich Mikhoels (1890-1948) of the State Jewish Theatre (GOSET), where Biomechanics was taught from the 1920s. It is a definition of "Постоянной работы актерского самосознания, регулирующая сценическое поведение" ("the constant work of the actor's self-awareness, regulating stage behaviour") in polemic with the MkhAT's idea of the "muscle controller". As discussed, the development of the muscle controller, checking for "зажим" (stiffening, "clamping down" in the stage situation), to safeguard the creative state and general health of the performer, in Stanislavsky's view, becomes Second Nature, taking place automatically.

This checking is only one aspect of k.a.a. Engaging with the Constructivist enjoyment of mathematics, Meyerhold (1991: 198) proposed a formula in his

1922 lecture whereby “ $N = A_1 + A_2$ (where N = the actor; A_1 = the artist who conceives the idea and issues the instructions necessary for its execution; A_2 = the executant who executes the conception of A_1)”. Leach interprets Meyerhold as dividing the actor’s functioning into two, “that of the body, which must be like a machine and that of the controlling brain” (Leach and Borovsky, 1999 313). Roach sees the formula as “pretentious” (1993: 203) and Braun as simply derived from Coquelin (Meyerhold, 1991: 202). Coquelin (1932: 25) postulated the “dual personality of the actor” who has his first self, the actor and his second self, which is the instrument. The first self conceives the person to be created and the being that he conceives is represented by his second self. However, Coquelin’s formulation might imply a separation of mind and body, of the instrument from the conceiving self. (It remains commonplace to talk in this split way of the actor’s body as their instrument or machine, as Leach does.) Meyerhold’s formula with “ N ” as the accumulation of elements, perhaps goes beyond any notion of instrument or machine and presents the actor as a whole human being. “ A_1 ” the artist and “ A_2 ” the executant suggest more than the sum of body and brain, intimating consciousness and the capacity for self-mastery.

Meyerhold’s concept of “mirrorising” has widely been interpreted as “self-observation” (Leach, 1989: 65). Tarshish (2005: 120) notes that the need for the actor to consciously “mirrorise” is more than the self-observation fundamental to Stanislavsky’s muscle controller,

связано у Мейерхольда с акцентом на синтезирующем начале, представлением о целостной сценической композиции, которой должно соответствовать всеми своими четкими фиксированными параметрами создание актера. Здесь он, в противоположность актеру Станиславского, не отождествляется с изображаемым лицом. Соответственно, актер Мейерхольда “видит” персонажа как более определенным, четким точную себя самого человек так определенно и четко можно увидеть только в зеркале.

(connected for Meyerhold with the accent on the synthesizing principle, the idea of the whole stage composition, which must correspond in all its features to the fixed parameters of the creation of the actor. The actor, as opposed to Stanislavsky’s actor, does not identify with the person being portrayed. Meyerhold’s actor “sees” the personage as a more defined, precise, person of one’s own self such as one might see only in the mirror in such a definite and precise way.)

Mikhoels (and others) asserted the connection between k.a.a., the actor's self-control, and the final image of the role. The actor's work has an "intellectual" beginning. Differently from Stanislavsky's "muscle controller" regulating the creative state, k.a.a. "регулирует и проверяет все – во вкусовых моментах актерской игры и ритмической кривой актерской работы" (Tarshish, 2005: 120; "regulates and checks everything – in the artistic moments of the actor's playing, and the rhythmic curve of the actor's work").

Meyerhold emphasised the theatrical aspect of a role, "*амплуа*", the character's dramatic function rather than individual character or role based in personal experience. The masks of *commedia dell'arte*, symbolic stage personae, conventionalised types, even clowns enabled estrangement from "reality" in his conventional theatre, as opposed to Stanislavsky's mimetic theatre of realisms. Here, Meyerhold can be compared with Diderot, who, in writing about the actress he admired, Clairon, in the role of Roman Empress Agrippina, states that the "type" she has imagined is not herself. "What then is the truth for stage purposes? It is the conforming of action, diction, face, voice, movement and gesture to an ideal type invented by the poet and frequently enhanced by the player" (Cole and Krich Chinoy, 1970: 166). Meyerhold's "*амплуа*" is consciously constructed and "head" or thinking is the decisive factor. He said in his 1925 lecture: "Все движения наших физических механизмов зависят от основного, главного центра, которым является мозг, который участвует во всем (Meierkhol'd, 1925: 44; "All the movements of our physical mechanisms depend on the basic, main centre, the brain, which participates in everything"). Furthermore, the pleasure of acting comes from the ability of the actor to deal with all his movements or verbal material in the second, or fraction of a second, when he pauses for a moment in his acting, conceiving: "задумывается, зная, что он будет делать, что он будет говорить – то обязательно проведет все это через свой мыслительный аппарат" (Meierkhol'd, 1925: 44; "conceiving, knowing what he will do, what he will say, then all this must be conducted through his thinking apparatus").

He goes on to offer a definition of biomechanics:

не только как таковую, если актер совершенствует свой речевой аппарат или аппарат своих движений, тогда он еще не может быть актером. Его способность анализировать свои движения каждое мгновение (в лаборатории на подготовительной работе он тупоумный), а затем на основе анализа ему с каждой минутой, с каждой репетицией становится легче, его мыслительный аппарат становится все более и более мобильный.

[Meierkhol'd, 1925: 45]

(not only as the actor perfecting his verbal apparatus or the apparatus of his movements. In that situation he is not yet an actor. His ability is to analyse his movements at every moment (in the laboratory in the preparatory work he is slow-witted), but then, on the basis of his analysis, with each minute, with each rehearsal it becomes easier, his thinking apparatus becomes more and more mobile.)

Biomechanics obviously includes artistic as well as the technical aspects of acting. To emphasise this, Meyerhold states that a violinist who thinks about nothing apart from how to achieve virtuosity in the use of his fingers cannot be a virtuoso: “Когда он стал виртуозом, он стал мыслителем. Когда берет какой-то трудный пассаж, вы чувствуете, что он внезапно подумал о пути, через музыкальную конструкцию, чтобы показать вам, как он видит мир” (Meierkhol’d, 1925: 45; “When he became a virtuoso, he became a thinker. When he takes some difficult passage, you feel that he suddenly thought of the way, through the musical construction, to show you how he sees the world”).

In “The Actor of the Future and Biomechanics”, Meyerhold said: “Since the art of the actor is the art of plastic forms in space, he must study the mechanics of his body. This is essential because any manifestation of force (including the living organism) is subject to the constant laws of mechanics”. But Biomechanics goes beyond this: “Art should be based on scientific principles; the entire creative act should be a conscious process” (Meyerhold, 1991: 198).

The teaching of Biomechanics today largely consists of the canonical études and work with sticks. How this informs the artistic development of roles in the variety of plays and performances a contemporary actor may be involved in is often not clearly understood. But for Meyerhold, Biomechanics was intended to train the actor, through conscious analysis and development of movement skills, in a way that could be compared with Lesgaft’s method and also enable the actor to develop the art of acting in accordance with a worldview.

Bernstein and Vygotsky

In the 1930s, psychologist Lev Vygotsky (1896–1934), who knew Meyerhold’s work and was on terms of friendship with Eisenstein, began to propose that human behaviour could not fully be explained by Conditioned Reflexes. In 1932 his “On the Problem of the Psychology of the Actor’s Creative Work” asserted a new formulation of the problem raised by Diderot’s *Paradox* and a development of Stanislavsky’s ideas, in terms of a worldview based in dialectical materialism. He suggested that the psychology of the actor is a historical

and class category, not just a biological category. It is not solely human nature, human emotions or passions that determine the actor's experiencing, as Stanislavsky believed. There was a need to go beyond the limits of the actor's emotions and shared experience with the audience to include the social and political factors determining behaviour, and the social as well as biological or evolutionary genesis of the human psyche or mind. He, like Bernstein and others, was interested in the evolution of the brain, but recognised that this was not enough to explain consciousness.

Josef M. Feigenberg notes that there are multiple parallels between the theory of mental activity that originated from Vygotsky's research into psychology and the theory of the physiology of *aktivnost'* (activity) that Bernstein developed. "Describing movements, Bernstein emphasized the most important role of goal-directedness, achievement of goals, actions, motivation and activity". These were not previously considered a legitimate object of research in physiology (Feigenberg, 2014: 57).

Bernstein investigated what sort of mechanisms exist in the brain to explain what he had observed about movement in relation to a goal. One of his questions in the work at TsIT, as noted previously, was how the worker always hits the chisel when each movement is different and the hammer does not follow the trajectory in the same way each time. In the 1920s, Gastev's social engineering experiments began to be seen as "mechanistic", based in a limited idea of correct reflexes. Bernstein established that all movements are unique and only the core elements important for achieving an objective are repeated (Sirotkina, 2009: 73). He demonstrated that the biomechanics of work movements at TsIT were based on a wrong principle. The biomechanical and physiological construction of a movement is determined by the goal and the brain is always processing information; it is *aktivnyi* (active). To be efficient, a movement should be thought through every time; not to do so, to perform movements by rote, is to deaden, mechanise them, to leave out information available to consciousness.

These theories challenged views in the Soviet Union on the determination of behaviour by reflexes, Sechenov and Pavlov's ideas of an external stimulus prompting behaviour and the notion of the reflex arc on which they depended. "Elaborating the physiology of activity throughout his life, Bernstein showed that any living motion is initiated from within the organism through the reflex circle, where the central neural system can get feedback about movement realization" (Talis, 2020: xi). Unfortunately, because of the significance of Pavlov's work, it was not until the late 1950s and early 1960s that Bernstein and others began to say openly that "reflex activity is not synonymous with psychic activity because the reflex concept is too simple to explain psychic activity: if physiologists would go beyond the reflex approach they could identify

physiological mechanisms (the physiology of activity [...]) that would explain many phenomena earlier thought to be reserved for psychologists” (Graham, 1987: 198).

Bernstein’s criticism of the application of Pavlov’s reflex theory in a simplified way to living movement had severe consequences for him and it became difficult for him to continue his experiments and disseminate his work, the significance of which is still not fully recognised.

It is very interesting that long before this, Stanislavsky, alongside his subscribing to “Second Nature”, had been investigating *aktivnost’* in his theatre “laboratory”. As he stated, action is internal and external, psychological and physical, and the actor carrying out such an action is active (*aktivnyi*) and *aktivnost’* is one of the foundations or bases of the System.

[Whyman, 2008: 41]

Conclusion

Boborykin suggested that the scientific verification of the answer to the question raised by Diderot’s *Paradox*, whether “head” or “heart”, reason and intelligence or sensibility is primary in acting, was still far from resolution. Diderot, Ostrovskii, and Boborykin all came to appreciate the complexity of the actor’s process, and Ostrovskii and Boborykin realised (as Meyerhold did) that seeing experiencing and representation as two opposite schools was not clearcut. There was a recognition that the actor needed to be “intelligent”, to use intellectual faculties in planning a role and also in controlling emotional expression, needing in Diderot’s terms a “cool head”, a calm or “disinterested onlooker”.

Boborykin thought that reason and feeling should be merged harmonically by the “study of human talent and psychic life” and that “those phenomena that can serve as foundations for the building of a scientific theory” should be brought together from various regions of knowledge. Complicating the situation, in this period, Sechenov’s reflex theory appeared to explain the workings of the brain and the way the actor can generate emotion. Sechenov paved the way for Pavlov’s work and as Conditioned Reflexes came to dominate, other regions of knowledge were precluded from contributing to the building of a scientific theory.

Stanislavsky’s entry point into the discussion, before this domination, was at the time when psychology was burgeoning as a field. He investigated Associationist psychology in relation to his extensive practical experiments. In his worldview and aesthetic, emotional experiencing was always the hallmark of truthful, natural acting, with its basis in the processes of memory of feelings

occurring in the human being, communicable to an audience. Yet he recognised the need for the actor to maintain calm at the centre as emotional feeling was evoked and to avoid *zazhim* (stiffening). He developed the “muscle controller” with the aim of facilitating this calm centre. The requirement to fit with the Pavlovian paradigm caused confusion in his theorising. Then as it was translated into the West, the Soviet appropriation of Stanislavsky’s System led to some misunderstanding of his work and attribution to him of embracing reflex theory in the System, though in recent years this has become clearer. Crucially for Stanislavsky, the actor’s action is goal-directed, voluntary action. Further investigation of *aktivnost’* (activity) and Bernstein’s work in this connection could be fruitful.

Meyerhold was initially influenced by reflex theory, resulting in perceptions of Biomechanics and the main ability for the actor, *vozbudimost’* (reflex excitability), being seen as rooted in conditioned reflexes, particularly in the West. As Meyerhold clarified later, the actor’s “excitability” (perhaps “responsiveness”, or Boborykin’s “receptiveness”) does not need to be taught as reflex. It is wrong to use the Biomechanical exercises and études as drill. Meyerhold’s *vozbudimost’* does not preclude experiencing, and Stanislavsky and Meyerhold are closer together on “inner and outer” than has been thought. More analysis of Bernstein’s work in relation to Meyerhold’s laws of movement would be useful. Like Bernstein’s chiseller, the actor in training needs to become aware of the laws of biomechanics to ensure efficient movement, and should not do work that is superfluous or harmful. The actor should understand that movements cannot be repeated exactly: each movement is different and has to be consciously directed and controlled to be effective and expressive. In his experiments with control of expression, prompted by his grotesque and politicised worldview and conventionalised aesthetic, where the actor may comment on, rather than inhabit the role, Meyerhold investigated brain processes of reflection and analysis in more depth than Stanislavsky. Vygotsky was right to point out that the fields of knowledge being applied to develop the science of acting were too narrow and the field of reference still needs to be expanded in order to investigate and verify the discoveries that the great directors made in practice.

Notes

- 1 All translations from quotations in Russian included in this essay are my own.
- 2 In Boborykin’s terminology *razumnyi*. For a useful discussion on shades of meaning related to “head” and “heart” imparted by differences in terminology, see Kuptsova, 2015, p. x.

- 3 “Physiognomy” can be translated as “external body movements”.
- 4 For example, Joseph Roach, *The Player’s Passion* (1993); Philip Zarrilli, *Acting (Re)Considered* (2002); Jonathan Pitches, *Science and the Stanislavsky Tradition of Acting* (2006); Rose Whyman, *The Stanislavsky System of Performance-Legacy and Influence in Modern Performance* (2008).
- 5 See Whyman, *The Stanislavsky System of Acting*, pp. 52–64.
- 6 A survey was distributed among the leading actors of Moscow theatres in 1922–23 on the questions formulated by Diderot in relation to “head” and “heart” in the art of acting. The questionnaire was prepared by Efros and L.A. Gurevich, who collaborated with Stanislavsky. See Smoliarova, Tatiana (2015), ‘Paradoks 1920-23: Tekst v kontekste’, *NLO*, No. 6 (136) 197–198.
- 7 Tolstoy, *What is Art?* The purpose of art is the communication of human feeling.
- 8 For a full discussion, see Whyman, *The Stanislavsky System of Acting*, pp. 91–6.
- 9 For a fuller account of Pavlov and Stanislavsky, see Whyman, *The Stanislavsky System of Acting*, pp. 67–78.
- 10 See Whyman, *op. cit.*, pp. 267–70.
- 11 This has been compounded as newer translations of Stanislavsky’s work into English have avoided terminology of the “spirit” and the “soul”, using “mental” or “psychological” instead. Bella Merlin insightfully questioned this in “Where’s the spirit gone? The complexities of translation and the nuances of terminology in *An Actor’s Work* and an actor’s work”, *Stanislavski Studies* (2012) 1:1, pp. 43–86.

Declaration of competing interest

There is no conflict of interest.

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References

- Bernstein, N.A., 2020. *Biomechanics for Instructors*. Springer, Cham, Switzerland. Translated by Rose Whyman.
- Boborykin, P.D., 1866. *Mir Uspekha: Ocherki parizhskoi dramaturgii* (Pamiati M.S. Shchepkina). *Russkii Vestnik* 64 (8). In: Kuptsova, O., 2015. Razum, Chuvstvo i Refleksii. *NLO* 6 (136), p. 217.

- Boborykin, P.D., 1891. Lektsii o stenicheskom isskustve, chitannye v Imperatorskom Moskovskom teatral'nom uchilishche. Lektsiia IV. Artist 19. In: Kuptsova, O., 2015. Razum, Chuvstvo i Refleksii. NLO 6 (136), p. 221.
- Cole, T., Krich Chinoy, H., 1970. *Actors on Acting*. Crown Publishers, New York.
- Coquelin, C., 1932. *The Art of the Actor*. George Allen and Unwin Ltd., London. Translated by Elsie Fogerty.
- Cuny, H., 1964. *Ivan Pavlov, the Man and His Theories*. Souvenir Press, London. Translated by Patrick Evans.
- Diderot, D., 1883. *The Paradox of Acting*. Translated by W.H. Pollock. In: *The Paradox of Acting and Masks or Faces?* Hill and Wang, New York, 1957. Introduced by Lee Strasberg.
- Diderot, D., 1923. *Paradoks ob Aktere*. Translated into Russian by Nikolai Efros. Yaroslavl.
- Feigenberg, J.M., 2014. *Nikolai Bernstein – From Reflex to the Model of the Future*. LIT, Zurich. Translated by Julia Linkova.
- Gordon, M., Law, A., 1996. *Meyerhold, Eisenstein and Biomechanics-Actor Training in Revolutionary Russia*. McFarland and Company, North Carolina.
- Graham, L.R., 1987. *Science, Philosophy and Human Behaviour in the Soviet Union*. Columbia University Press, New York.
- Hoover, M., 1974. *Meyerhold: The Art of Conscious Theatre*. University of Massachusetts, Amherst.
- James, W., 1890. *Principles of Psychology*, vol. 2. Macmillan, London.
- Kuptsova, O., 2015. Razum, Chuvstvo i Refleksii (Reason, Feeling and Reflexes, Diderot, Ostrovskii and Others). NLO 6 (136), 211–230.
- Leach, R., 1989. *Vsevolod Meyerhold*. Cambridge University Press, Cambridge.
- Leach, R., Borovsky, V., 1999. *A History of the Russian Theatre*. Cambridge University Press, Cambridge.
- Meierkhol'd, V.E., 1925. Doklad Vs. E. Meierkhol'da o Sisteme i Priemakh Akterskoi Igry. In: Pesochinskii, N.V. (Ed.), *Meierkhol'd, V.E. (1998), K istorii tvorcheskogo metoda. Kult'in-formpress*, St Petersburg.
- Meierkhol'd, V.E., 1968. Stat'i. Pisma, Rechi, Besedi, vols. 1, 2. *Iskusstvo*, Moscow.
- Meyerhold, V., 1991. *Meyerhold on Theatre*. Methuen, London. Translated and edited by Edward Braun.
- Morozova, G.V., 1998. *Plasticheskoe Vospitanie Aktera*. Terra Sport, Moscow.
- Muza, A., 1996. Meyerhold at rehearsal: new materials on Meyerhold's work with actors. *Theatre Topics* 6 (1), 15–29.
- Ostrovskii, A.N., 1978. *Aktery po Sechenovu. Polnoe Sobranie Sochinenii*, in 12 vols. Moscow, vol. 10.
- Riordan, J., 1977. *Sport in Soviet Society*. Cambridge University Press, Cambridge.
- Roach, J., 1993. *The Player's Passion: Studies in the Science of Acting*. University of Michigan Press, Newark.
- Rudnitsky, K., 1981. *Meyerhold the Director*. Ardis, Ann Arbor. Translated by George Petrov.
- Sechenov, I.M., 1965. *Reflexes of the Brain*. M.I.T. Press, Cambridge, Massachusetts. Translated by S. Belsky.
- Sirotkina, I., 2009. The ubiquitous reflex and its critics in post-revolutionary Russia. *Berichte Zur Wissenschaftsgeschichte* 32, 70–81.
- Sirotkina, I., 2014. Zagadochnyi Doktor Petrov, Biomekhanika, Tefizkul't i Vseobuch. *Vo-prosy Teatra* 15 (1–2), 168–175.
- Sirotkina, I., Smith, R., 2017. *The Sixth Sense of the Avant Garde*. Methuen, London.
- Smith, R., 1992. *Inhibition: History and Meaning in the Sciences of Mind and Brain*. Free Association Books, London.

- Stanislavskii, K.S., 1988–1999. *Sobranie Sochinenii* (Collected Works), vols. 1–9. Iskusstvo, Moscow.
- Stanislavskii, K.S., date unknown. MKhAT, K.S. Archive 833.
- Stanislavskii, K.S., 1929–1932. *Zapisnaia Knizhka*. MKhAT K.S. Archive 544.
- Svetaeva, M., 1973. “Ob Akterakh po Sechenovu” god 1886-y. *Teatr* 4, 97–100.
- Talis, V., 2020. Introduction. In: Bernstein, N.A. (Ed.), *Biomechanics for Instructors*. Springer, Cham, Switzerland. pp. xi–xxiv. Translated by Rose Whyman.
- Tarshish, N.A., 2005. Kontrol’nyi apparat aktera (The Control Apparatus of the Actor). In: Frolov, V.A. (Ed.), *Teatral’nye Terminy i Poniatia: materialy k slovariui*. Vypusk 1, pp. 120–122.
- Vygotsky, L.S., 1932. On the problem of the psychology of the actor’s creative work. In: *The Collected Works of L.S. Vygotsky*, vol. 6.
- Whyman, R., 2008. *The Stanislavsky System of Acting, Legacy and Influence in Modern Performance*. Routledge, London.