BIOLOGIZING PSYCHOANALYSIS: KONSTANTIN GAVRILOV AND FREUDO–PAVLOVISM IN ARGENTINA (1942–1960)[1]

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Introduction

> L'œuvre de Freud est l'analyse la plus profonde que l'histoire ait connue de ce qui, dans l'homme, n'est pas le plus humain.
>
> Roland Dalbiez

The relationship between psychoanalysis and biology has been the object of much debate. Studies on the history of psychoanalysis have long recognized the close ties between Freud's ideas and the neurological and

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evolutionary theories of his time (e.g. Sulloway, 1992; Vallejo, 2011). Furthermore, the steady growth of historical investigation on psychoanalysis has brought forth the varied and various theoretical mixes produced by psychoanalytic authors, which have allowed for a revision of the relationship between psychoanalysis and other fields of knowledge (e.g. Damousi & Plotkin, 2009). In consequence, the aim of this article is to highlight the links between psychoanalysis and neurophysiology, particularly focusing on articulating the ideas of Freud with those of Ivan P. Pavlov.

The aforementioned articulation has not been the object of much study; however, it has not gone completely unnoticed by historians of psychoanalysis. For example, Jacquy Chemouni researched Trotsky's hope for the emergence of a natural science of man that would be based both on Freudian as well as Pavlovian ideas. Trotsky considered that psychoanalysis would only become legitimate were it to abandon speculation and integrate itself to both neurophysiology and Marxist–Leninist dialectical materialism (Chemouni, 2007, p. 163). Chemouni shows that Trotsky asserted that neurophysiology, particularly the Pavlovian strain, could potentially be the scientific basis for all psychology, inasmuch as the psyche was considered to be a superstructure, a new quality derived from biological processes. In Trotsky's view, the emphasis placed on biological bases does not include a rejection of psychoanalytic theory. On the contrary, psychoanalytic theory is recognized as necessary in terms of achieving a unified and naturalized comprehension of mankind.

However, Chemouni's analysis of Trotsky's psychophysiological proposal falls short due to its historical perspective. A conception of psychoanalysis which refers to the old history of ideas can be seen in the words of the author. He states:

> It's immediately evident that the relationship between Freud and Pavlov cannot be established without paying the price of denaturalizing psychoanalysis; thus, it would imply a particular conception of psychoanalysis that, at the end of the day, would find its originality to be distorted. (Chemouni, 2007, p. 147)

The main problem of this conception is that it assumes that there is a psychoanalysis whose 'nature' and 'originality' could exist outside of the medium in which it circulated and was legitimized, as if its veracity existed beyond the historical and material conditions from which any form of knowledge emerges, is discussed and then disseminated. On the contrary, it would be preferable to consider that the legitimacy of psychoanalysis depends as much on the efforts of those who promote it as it does on other disciplines' appropriation of its theory, as well as on the particular relationship between knowledge and legitimating criteria available in different contexts. Thus, this paper will argue that the intersection between

Freud and Pavlov's ideas was not an anomaly nor a conception that distorted some of the knowledge at play, nor was it an individual intellectual whim – as would be Trotsky in Chemouni's example – but was instead the result of different European and American authors' explorations, a theoretical mix that was reasoned and considered viable as a means of substantiating a science of the psyche, using the knowledge that was available to them and considered legitimate during the first half of the twentieth century.

It is possible that the links between neurophysiology and psychoanalysis have been belittled because of an epistemic bias that the majority of the psychoanalytical community currently holds with regard to its knowledge. According to Carlos Maffi (2005, 2012), contrary to what Freud proposed in this theory, many psychoanalysts sought quickly to rid themselves of the evolutionary ideas of their teacher, and developed instead a more 'semioticized' version of psychoanalysis, marked by a decided anti-naturalism. This strain of psychoanalysis managed to impose itself within the Anglo-Saxon and French settings as an authorized version of psychoanalysis, thus setting aside from its theory, and consequently from its history, most actual or possible ties to biology. In this sense, those who continued to search for connections between Pavlov's and Freud's theories aligned themselves with an evolutionary ethos shared by the Viennese neurologist and the Russian physiologist. Certainly, there were differences in the way Freud and Pavlov approached evolutionary theories, but both considered them to be a necessary basis for their theories (Windholz & Lamal, 1991; Todes, 2002, pp. 74–5). Although it is clear that the relationship between psychoanalysis and biology cannot fully explain its cultural and practical extension (Forrester, 1994, p. 179), it is not possible to consider a clear picture of its dissemination without elucidating the connection between the two, inasmuch as the fact that ideas about evolution and the nervous system have been – and continue to be – an important component of the process of legitimizing practices and expert knowledge and, in a more general sense, of the Western world's cultural imaginary.

The presupposition of the complete autonomy of psychoanalysis not only leads to the blurring of the connections between Freud's work and neurophysiology in general, but also creates the assumption that Pavlovism can be reduced to the work of Pavlov himself and is inherently incompatible with the knowledge and values defended by psychoanalysis. Chemouni, for example, equates all Soviet psychology with Pavlovian neurophysiology and states that Pavlovian thought necessarily fed the Bolshevik Party's authoritarian ideology, which rejected psychoanalysis (Chemouni, 2007, pp. 164–6). However, investigations conducted on psychoanalysis in the USSR show that the conjunction between the two was far from straightforward. Different Marxist interpretations of Freud's

work became available from the 1920s on, all of which, in general, implied the search for the physiological bases of his theses. Amongst them were those advanced by Bernard Bykhovsky and Aaron B. Zalkind who proposed, in 1924, a certain compatibility between the works of Freud and Marx based on Pavlov's and Vladimir Bekhterev's theories. These theories would allow the elimination of the speculative content of psychoanalysis and thus align his work with dialectical materialism (Miller, 2005, pp. 124–5, 130–1; Etkind, 1997, pp. 229, 274–5). During that same time period, Lev Vygotsky and Alexander Luria considered both theoretical frameworks as being necessary and complementary (Miller, 2005, pp. 136–8; van der Veer & Valsiner, 1991, pp. 86–8, 99–103).

However, the connections between Freud and neurophysiology were not exclusive to the peculiarities of a pre-Stalinist Soviet Russia. In France, Nicolas Kostyleff, a psychologist of Russian origin, proposed – some years prior to Trotsky – drawing a connection between Freud's and Pavlov's ideas (Ohayon, 2006, pp. 123, 150; Carson, 2012), as did the Russian interpreter and translator Wladimir Drabovitch (Ohayon, 2012) and the philosopher Roland Dalbiez, in his book *Psychoanalytical Method and the Doctrine of Freud*. The latter, which circulated widely, was an echo of French and American discussions regarding the physiological bases of psychoanalytic theories. Dalbiez, along with Kostyleff and Drabovitch, states that Pavlov's fundamental contribution is that his ideas 'constitute, in our opinion, a true demonstration of dynamism' (Dalbiez, 1987[1936], p. 532). According to this author, Pavlov's theories regarding psychopathology being the product of the collision between two tendencies were in fact the confirmation of Freud's thesis on neuroses. Thus, neurophysiological experimentation 'allows for a good number of the results obtained by Freud to be verified by means of the conditioned reflexes method, whose systematic study we owe to Pavlov' (Dalbiez, 1987[1936], p. 517). In this sense, Pavlov's theses on neuroses were proposed as being a valuable scientific base since they confirmed Freud's intuitions regarding the way the psyche functions.

Besides, not all of the supporters of the connections between Freud and Pavlov were *outsiders*. Rudolf Brun, neurologist and training analyst from the Swiss Society of Psychoanalysis, had an early interest in Freud's neurological theories (Brun, 1936) and worked for decades to find the biological bases of psychoanalysis, using Pavlovian ideas to achieve this end. In his most renowned work, *Allgemeine Neurosenlehre* (*General Theory of Neurosis*), he pointed out that, '[t]here is no doubt that the periodical emergence of the psychoneurotic symptom as a whole, i.e., as a complete structure, occurs in accordance with the mechanism of the conditioned reflex' (Brun, 1951[1942], p. 150).

On the other side of the Atlantic, Lawrence Kubie, neurologist, psychiatrist and a dominant figure in the New York Psychoanalytic

Society and the American Psychoanalytic Association, turned to Pavlovian theories in order to argue that 'psychoanalysis, as a method of fact gathering, has a sound basis in accepted physiologic laws' (Kubie, 1934, p. 1137). Later, in his manual titled *Practical and Theoretical Aspects of Psychoanalysis*, he commented on the physiological bases of free association, stating that:

> just like the great school of Russian neurophysiology has contributed to demonstrating the enormous importance and vital significance of time relationships in psychophysiology, the psychoanalytic tradition's contribution has consisted of using this fundamental principle in order to study thought and emotion processes. (Kubie, 1951, p. 66)

Thus far, this paper has put forth a brief outline of the attempts to articulate the works of Freud and Pavlov. Thus, it is now necessary to establish the topic and objective of this article. The phrase 'Freudo–Pavlovism' designates an effort to find connections between Freud's and Pavlov's ideas, in terms of normal or pathological phenomena, in an attempt to create both a scientific base for psychoanalysis, as well as broaden the neurophysiological perspective. The aim was to offer a unitary theoretical model of the mind and body by means of clinical and experimental results, from an evolutionary perspective, which would allow for a biological interpretation of Freud's theories and a positive evaluation of Pavlovian psychophysiological theories derived from the study of animals. Freudo–Pavlovism did not emerge out of a particular discipline, nor did it necessarily highlight the work of any of the authors on which it was based. Neither did Freudo–Pavlovism cover all of the possible links between psychoanalysis and other neurophysiological and biological theories. Within this framework, the study of Konstantin Gavrilov's work (Borovenka, Russia, 1908 – San Miguel de Tucumán, Argentina, 1982) allows for the carrying out of a double task: first, to explore an almost unknown figure within the extensive history of Argentine psychoanalysis; second, to show, through an account of his detailed and informed work, the wide range of topics and problems related to Freudo–Pavlovism. Given that this article focuses on the work of only one author, the task of a complete reconstruction of Freudo–Pavlovism is unattainable; however, the recognition and exploration of Gavrilov's work at least allows for a move in that direction.

Pavlov and Argentine Psychoanalysis: Initial Approaches

Although the possible connections between the ideas of Freud and Pavlov were already being explored by, at the latest, the mid-1930s (e.g. Rabinovich, 1936), the most exhaustive developments on the topic were

made by Konstantin Gavrilov. His training took place in various countries; he completed elementary school in Russia and high school in 1920 in Tallinn, Estonia. From 1927–34 he studied at Charles University in Prague, where he obtained his doctorate in zoology with a thesis on the reproduction of *Oligochaeta*. From 1929 on, he began to publish articles on Pavlovian theories and trained in psychiatry and psychoanalysis under Theodor Dosužkov, who, in turn, studied with Nikolai Osipov, Annie Reich and Otto Fenichel, and later became the main instigator of the Czech Psychoanalytical Society. Dosužkov was an enthusiast of Pavlov's theories and, between 1935 and 1939, he published articles in Czech that proposed the existence of a relationship between reflexology and psychoanalysis. Likewise, Gavrilov published his first articles on the topic between 1936 and 1939. Right before the outbreak of the war he emigrated to Buenos Aires, where his father, a naval architect, had been living and working since 1926. Once established, he began to participate in the Department of Anatomy and Comparative Physiology in the School of Medicine of the University of Buenos Aires (UBA), and worked at the Mercedes Hospice and the Children's Hospital, where he came into contact with Enrique Pichon-Rivière and Arnaldo Rascovsky, respectively. Gavrilov's training was not uncommon in the Eastern Europe of that time. In fact, animal behavioural biology was a field of study that, via the work of Pavlov, allowed for extensive research into diverse psychological topics. His interest in both psychoanalysis and clinical work drew him to local psychoanalysts.

From the beginning of the 1940s, Arnaldo Rascovsky, Enrique Pichon-Rivière and Ángel Garma, amongst others, were devoted to the creation of the Argentine Psychoanalytic Association (APA), founded in 1942 (Balán, 1991). One of the APA's main interests during its first years was its focus on psychosomatic studies, instigated by Rascovsky, who had already published on the topic and maintained constant contact with Franz Alexander (Dagfal, 2009, p. 119). During this period, members of the APA were looking to engage with the medical field and presented psychoanalysis as being an integral and humanist focus on pathology. Thus, psychosomatics could become a bridge that allowed for the legitimization of psychoanalysis within the medical field (Borinsky, 2009, pp. 107–9). Consequently, the first book published collectively by the APA was entirely dedicated to this topic (Rascovsky, 1948). Gavrilov maintained close ties to the APA's founding figures during the first years of the 1940s. In 1941 he gave a number of lectures to a circle dedicated to Rascovsky's psychosomatics, and he participated in the APA as a 'supporter' from 1942–4. During this time, he received the greatest support from local psychoanalysts. Garma, in his book titled *El psicoanálisis. Presente y perspectivas* (*Psychoanalysis. Present and Perspectives*) (1942), included a chapter, probably mostly written by Gavrilov, dedicated exclusively to the

possible connections between the theories of Freud and Pavlov as a foundation for psychosomatics.

Gavrilov's first book, *El problema de las neurosis en el dominio de la reflexología* (*The Problem of Neuroses in the Domain of Reflexology*) (1944), with a prologue by Pichon-Rivière, presented the main outline for Pavlovian psychopathological research. Gavrilov was unusually well informed in comparison with his local context, showing ample knowledge of the literature on the topic in several languages as well as being able to discuss the ideas of Kostyleff, Drabovitch, Brun, Dalbiez, Kubie, Howard Liddell, Nikolai I. Krasnogorsky and Theodore French, amongst others. Gavrilov's arguments focused on two main topics: the physiological conception of the psyche and the organic dynamics of psychopathology.

With regard to the former, Gavrilov took very seriously Freud's caution that 'the theoretical structure of psycho-analysis that we have created is in truth a superstructure, which will one day have to be set upon its organic foundation' (Freud, 1963, p. 389); he found that Pavlov's theories on higher nervous activity contained the conceptual and methodological elements appropriate to this end. He argued that the unconscious agencies of the psyche were a fundamental component of the subjective life of all individuals, including animals, given that Pavlov recognized that dogs, too, have an inner world and personality traits (Todes, 1997). For the zoologist, subjective life was a state that depended on the interaction between an inner and outer world, the conscious and the unconscious mind being psychological planes of this relationship. In Pavlovian terms, lower nervous activity maintains the equilibrium of internal organs by means of unconditioned reflexes, while superior nervous activity maintains the equilibrium between the organism as a whole and its environment by means of conditioned reflexes. The latter is tied to psychical activity and depends on more recent and complex cerebral structures, particularly the cerebral cortex, which acts as a great analyser of external stimuli. Subcortical structures respond to four fundamental tendencies towards maintaining life: alimentary, aggressive, sexual and investigatory tendencies. The irradiation of excitation or inhibition between subcortical and cortical structures generates subjective states. Excitation or inhibition processes are fundamental to all nerve functions and operate as alternating phases of a dynamic process of reciprocal influence. Thus, all conscious or unconscious subjective states relate to specific, physiological structures that respond to the physicochemical processes of nerve cells that are, in turn, organized into one coordinated system. According to Gavrilov,

> psychoanalytic notions, particularly those that pertain to the personality's psychic structure (the Ego, the Id and the Superego), thus become not only psychological but also metapsychological or neurological, *projecting themselves over the whole of the integrative and adaptive functions of the nervous system,*

> *and accompanied by their corresponding subjective moments.* (Gavrilov, 1944, pp. 20–1, original emphasis)

In this way, the differentiation between the psychical and neurological is strictly methodological and, consequently, 'there should only exist a single doctrine, either psycho-neurology or neuro-psychology' (Gavrilov, 1944, p. 21). Thus, Gavrilov adopted a monistic conception of man in which Freud's and Pavlov's theories could be articulated: while the neurophysiologist investigated the 'objective world' of man, psychoanalysis explored his 'subjective world'. These 'worlds' would co-exist both in human beings as well as in other species.

Furthermore, the zoologist asserted that the principal nervous phenomena – excitation and inhibition – are the result of a phylogenetic history common to all nervous systems. Gavrilov supported an evolutionary theoretical framework based on Pavlov's experiments, which had supposedly demonstrated that successive generations of rabbits acquired and stabilized conditioned reflexes at a progressively greater pace (Windholz & Lamal, 1991, pp. 101–3). Gavrilov subscribed to a version of reflexology that was a general model for the phylogenesis and ontogenesis of reflexes and subjective life. Although the inheritance of acquired characteristics theory had already been officially refuted – at least within the sphere of Western genetics – it was still active in the field of psychiatry, where it offered organizational models for biological factors. What is interesting about this rather lax evolutionism, already present in Pavlov and Freud, is not its theoretical inconsistencies, but rather its function as a base from which diverse theories can be articulated.

This scientific and ontological conception created the ability to consider psychoanalytic concepts through the use of Pavlovian terms, making them equivalent, unique processes. Thus, Gavrilov proposed a general and systematic exchange of notions, concepts and categories by identifying excitation with erotic drives and inhibition with thanatic drives, confident that the elucidation of these drives depended on advances in the fields of cellular biology and physiology. He proposed that temporarily forgetting proper names could be thought of as being a 'negative induction', that physiological dreams could be understood as being a 'general irradiation inhibition' of the nervous system, and oneiric activity as being a 'positive induction' carried out by the sleeping process. Contrary to Pavlov, he maintained that dreams' sexual content was evident and consisted of a 'total lack of inhibition of sexual subcortical tendencies that were otherwise inhibited during wakefulness' (Gavrilov, 1944, p. 63), thus proving that unconditioned, psychophysiological activity exists in dream formation.

The exchange between theoretical terms such as 'inhibition' and 'thanatic drive' was not a problem in and of itself, given that

laboratory-controlled experimentation and systematic clinical observation were, despite any existing differences, equally valid scientific methods. Gavrilov defended the idea of a hierarchically organized scientific field, where psychological factors would only be definitively clarified by means of more basic substrata. Freudian metapsychology could thus be reinterpreted in neurophysiological terms, in the sense that this would materially 'confirm' Freudian thought.

Additionally, Pavlovian theories contained a particularity that, although clear in his texts, has not been highlighted by his commentators: his texts, when interpreting psychophysiological phenomena, utilized vocabulary in a very flexible manner, whilst simultaneously sustaining a narrow, almost exclusively neurophysiological ontology. This particularity allowed Pavlov to discuss a series of psychopathological notions by adapting his theoretical lexicon, thus enabling the mix with psychoanalytic vocabulary. Confident that all things mental had their correlative neurophysiological processes, whose principles had already been revealed by means of experimentation, this translation of theoretical terminology enabled him to situate psychological problems on a level with the nervous system and, to a lesser extent, with environmental stimuli. Pavlovian theory provided laws for the former, not for the latter, such that the analysis of psychological phenomena was mostly referenced in terms of nerve processes. Any environmental factor could be considered 'stimuli' and all internal processes were the result of the dynamics between excitation and inhibition. This allowed him to create a theory based on a reduced ontology, one that could be manipulated easily via experimentation, taking into account that the phenomena were considered as being on a level with the nervous system. Therefore, Pavlovian neurophysiology offered a new and flexible vocabulary, open to translation and thus containing heuristic value. This translation and drawing of equivalencies among different theoretical terminologies was very interesting to Gavrilov, since it enabled both corpuses of knowledge to widen their agenda of possible topics.

With respect to psychopathology, his central idea consisted of a conception of normality understood as an equilibrium between excitation and inhibition in the different nervous system centres, while pathology was conceived as being its rupture. Nervous and psychical structures were the same in both normality and pathology and, as in Freud's work, dynamics depended on a quantitative amount, on the intensities of the workings of the nervous systems. This, however, did not impede the existence of a predominance of internal qualitative structures when considering the phenomena. Gavrilov pointed out that his conception of psychophysiological processes required to take into consideration that all reflexes, 'precisely because of the mutual interplay between the aforementioned physiological factors, contain one specific quality – that

of the subjective moment' (Gavrilov, 1944, p. 148). His need to consider this structure is what led him to seek psychoanalysis out as a resource, given that '*both forms of mental disorders – experimental neurosis or psychoneurosis – present analogous, if not identical, neurological mechanisms and the study of experimental neuroses could serve as one of the essential bases for the interpretation of man's "psychogenic" illnesses' physiology*' (Gavrilov, 1944, p. 105, original emphasis). In this way, psychoanalysis would guide neurophysiological research, and the latter would support the former. Thus, both approaches were necessary for a full understanding of psychopathology.

Of course, there are difficulties in finding an equivalence between animal and human neuroses; in addition to the language issue, the physiological version of pathology does not take into account the reconstruction of a patient's personal history. However, drawing an equivalence between fundamental mechanisms allowed Gavrilov to sustain the argument that, fundamentally, there is no difference between psychoneuroses and actual neuroses, that is, between environmental factors that generate instability and the 'subjective moment'. According to Gavrilov, the solution to relocating personal history within this psychophysiological conception was found in experimental neurosis research with children combined with a psychoanalytic interpretation, to which end he turned to Krasnogorsky's Pavlovian research on children with disorders treated with experimental conditioning procedures.

The trust in experimentation made the Pavlovian dynamic model potentially explanatory of any psychopathology. Almost every disorder could be explained using the phases attributed to the particular dynamics of inhibition and excitation, thus reinterpreting pre-existing nosologies. Precisely because of this and besides affirming that psychoanalysis is essential to a theory of the psyche, Gavrilov continued to demonstrate that psychoanalysis could be fully translated into neurophysiological terms. The equivalence drawn between libido and excitation is based on a sort of lax bioenergetics and the origin of this quantum can be conceived in neural physicochemical terms. Although authorized by Freud's own indications, a strict knowledge of the psyche would ultimately stem from neurophysiology and not psychoanalysis. In this sense, Gavrilov's book shows a unidirectional relationship between psychoanalysis and neurophysiology. Neurophysiology could serve as a foundation for psychoanalysis but not the other way around; psychoanalysis could generate psychological theories but, without the appropriate physiological foundations, these would be nothing more than speculations. This argument implied denying Freud's theses of full autonomy inasmuch as Pavlov's evidence became necessary in order to corroborate them. It should be noted that this implication was not considered to be of much importance to local psychoanalysts, who, on the

other hand, fervently defended the autonomy of their knowledge. All in all, Gavrilov did not seek to subsume Freud's ideas to those of Pavlov; in fact, his subsequent efforts tended to compensate the imbalance between each corpus of knowledge.

The Breadth and Limits of Freudo–Pavlovism in Argentina

After finishing his first book, Gavrilov dedicated himself to his studies in zoology. In 1947, he organized the zoology and reflexology section of the Miguel Lilo Institute of the National University of Tucumán (UNT) and in 1952 he taught animal biology, general and special zoology, as well as zoo-psychology, at the Zoology Institute of the UNT, where he continued to work for the rest of his life. Towards the end of the 1950s, his zoology studies on invertebrate organisms led him to pose more general questions about biology. Using the Freudo–Pavlovian framework, Gavrilov was sensitive to the fact that psychical/mental life and its pathologies interrogated the field of biology with regard to their biological possibility. Gavrilov pushed further with this interpretation, proposing that the collision between excitation and inhibition was the main motor of pathology and psychical dynamics in general, in contrast to Pavlov, who considered that disorders were the product of the prevalence of one process over the other. Authors such as Ivan Sechenov, Bekhterev, Pavlov, Vygotsky and French, amongst others, had provided evidence for the idea that the subjective lived experience could be considered as a quality that resulted from this collision, and thus asked themselves:

> Would this be the interpretation that would lay the path towards truly eliminating the limits between a strictly functional and a purely psychological interpretation of neuroses, as well as towards understanding conduct in general, in terms of it being a biological phenomenon? (Gavrilov, 1952, p. 23)

These dynamics, understood as the constant collision between antagonistic psychophysiological forces, allowed Gavrilov to find a new point of association between Pavlovism and psychoanalysis. The aforesaid dynamism had to be observed throughout the subject's personal history. The organization of the personality, thus, would depend on the dominance of foci of excitation, particularly subcortical ones, which, when interacting with basic functions, would allow for a connection with certain alimentary, digestive and reproductive functions, deemed by psychoanalysis as drives and libidinal stages. Each stage generates a psychophysiological structure that could 'collide' with other, more recent ones in terms of an individual's development and thus generate its own pathological effects. In this way, internal dynamics gain territory over external stimuli in terms of the aetiology of pathologies. With regard to the said internal environment,

Gavrilov stressed that the most archaic phylogenetic structures, vegetative structures – specifically sympathetic ones – influence the excitability of the nervous system as a whole. Consequently, all conditioning involves a conditioned vegetative structure. Thus, somatic conversions and organ neuroses can be explained without resorting to linguistic models or metaphysical speculation.

Gavrilov incorporated these ideas on psychopathology into a wider, psychobiological framework as part of his book *El psicoanálisis a la luz de la reflexología* (*Psychoanalysis in the Light of Reflexology*) (1953), his greatest theoretical effort. The book was a scientific study of the ties between psychoanalysis, neurophysiology and comparative anatomy using diverse biological and clinical data. In this text, Gavrilov attempted to link his two areas of interest: psychophysiology and the zoology of invertebrate organisms. He found the connection between the two to be the evolution of sex, specifically, sexual reproduction and the origin and preservation of life. The title of the book makes allusion to Gavrilov's theoretical pretensions, which well exceeded the mere articulation of two fields. In short, Gavrilov was proposing the foundations for a vast 'biophilosophy'.

The central thesis of the book is that there exist two basic forces that are the origin of life and its reproduction; these forces are based on the combination of the notions of eros and thanatos with the notions of excitation and inhibition. However, this starting point, albeit reductionist, did not imply the existence of a theoretical limit; on the contrary, it provided justification for a general speculation on organic life at all levels. Using his background as a specialist in invertebrate animals, Gavrilov searched in the complexities of the mind for similarities to the organic structures of simpler beings. On the one hand, he utilized a heterogeneous, and by then outdated, evolutionism that included von Baer, Müller and Haeckel's recapitulation theory as well as Hughlings Jackson's hierarchical view of the nervous system, both of which sustained the idea that the endpoint of evolution provides the rules for understanding how, in any form of life, general vital tendencies become integrated or subordinated hierarchically. Thus, pathologies are seen as regressions to earlier, more archaic forms of organization and function. On the other hand, he applied new ideas regarding the exchange of genetic material via chromosomes and even proposed formal models of interaction between genetic information and inhibitory/excitatory processes. He also combined all of this with Jakob von Uexküll's ideas on the *Umwelt* and the relationship between organisms and the environment as well as with Richard Semon's ideas on *engrams* and *ecphories*, which made up a biological memory of organic development and its organism/environment relationship. Thus, the vital activity of any organism, including protozoa, can reveal aspects of human psychology and vice versa. Consequently, all organisms have 'subjective

moments': the collision principle between tendencies is common to all living beings. Gavrilov was looking to take up Freud's ideas on metapsychology in order to justify and expand them.

Within this conception, pathology is no more than one of the possible vital modalities of the entire organism: 'All illnesses belong to medicine, on the one hand and, on the other, to biology, being one of life's manifestations' (Gavrilov, 1953, p. 153). In this way, neuroses are a necessary and common trait in the phylogenetic development of the nervous system: they represent one of the – albeit provisional and deficient – ways the organism adapts to and reaches an equilibrium with its environment. For Gavrilov, the clinical psychoanalytic method reproduced certain characteristics found in experimental work. The relationship between an experimenter and his subject is similar to the relationship between a psychoanalyst and the patient: 'The appearance of new stimuli during psychoanalytic treatment could have the same attenuating effects over the primary foci of inhibition, as that which occurs in reflexology experiments' (Gavrilov, 1953, p. 137). A clinical treatment would allow for unwanted excitation to be avoided and transference would allow a disinhibition of unconscious strata that would, in turn, allow for the exploration of previously inaccessible areas.

The theoretical bases for a biological interpretation of psychoanalysis are not reduced solely to Pavlov's neurophysiology, but also include zoology and cytology. Freud's renowned allusion to cellular organisms' drives in *Beyond the Pleasure Principle* paved the way for a series of psychophysiological speculations on simpler organic forms of life, becoming something of a 'psychocytology' or basic science of all vital manifestations. The tendency towards reconstruction and destruction is found, to a greater or lesser degree, in all organisms. This would make life a permanent game of tensions, disequilibria and re-equilibria between two series of processes: negative excitability, thanatic drives and the tension produced as a result of inhibition and nirvanism on the one hand and, on the other hand, positive excitability, erotic drives and the tension produced as a result of excitation and an archaic narcissism. To this he adds a conservative principle of repetition, based on phylogenetic memory and the succession of conditioning that occurs during organic development, which generates the tension between both process series by maintaining disequilibrium and re-equilibrium forces. As a consequence, Gavrilov proposes a rectification of Freud's work: while the Viennese attributes a repetition compulsion only to thanatic drives, Gavrilov proposed an erotic repetition, given that sexual impulses are repeated indefinitely and this would mean there was an inertia of life designed to perpetuate itself. Certain protozoa's potential immortality due to self-fertilization lends validity to this interpretation. Furthermore, erotic and thanatic tendencies occur simultaneously during cell division inasmuch as

two individuals are generated from the disappearance of the original individual:

> The disharmony, resolved in the act of cell division, is conditioned by the clash of fundamental forces that takes place in the protoplasm: that of the inertia towards life and death. Thus, along with their collision, eros and thanatos would carry the aforementioned biological phenomena, fundamental to the comprehension of all the series of successive phenomena, united under the singular name of *evolution*. (Gavrilov, 1953, p. 262, original emphasis)

By introducing changes to Freud's metapsychology, Gavrilov understood that a good part of the psychoanalyst's theory could be restructured; in fact, he considered that the existence of self-fertilizing organisms refutes the universal law on incest. Given the fact that 'on a regressive, psychophysiological plane, during an orgasm, the first fusion of two cells – the result of primordial cell division – is repeated', it becomes possible to re-think problems related to sexuality, reproduction and pathology:

> it would be interesting to relate primitive fetal narcissism disorder and its subsequent anxiety to the said state of the primordial cell that results from its first division. Would it be possible to search, on a phylogenetic plane, for the seeds of an equivalent anxiety in the first separation of two halves of the fragmented cell? (Gavrilov, 1953, p. 280)

Furthermore, he claimed that individual analysis could account for an archaic and profound phylogenetic symbolism. According to Ferenczi's recapitulation theory, coitus is an attempt to return to a maternal, aqueous environment in which, 'the organism's soma imitates, to the smallest detail, the activities of germ cells' (Gavrilov, 1953, p. 332) such that 'the sexual act also repeats the history of the species' (p. 330). Coitus and reproduction would become, then, a new disequilibrium inasmuch as the egg's fertilization forces cell division, which, in turn, goes against the thanatic state of rest that leads to cell destruction. Thus, 'from the lowest levels of the world's organisation, we can speak of the existence of a struggle between forces within the chromosomal apparatus of the nucleus, a struggle that is accentuated in the highest stratum of evolution' (p. 320), that is, from the sexuality of non-hermaphrodite animals to subjective human life.

In contrast to his constant efforts to innovate theoretically, Gavrilov offered only a few practical ideas. The therapeutic procedures that he presented were traditional and similar for the treatment of all pathologies: the re-education of the nervous system, rest, environmental changes and pharmacology, specifically hormone, bromide and caffeine compounds (Gavrilov, 1944, pp. 134–40). On the other hand, Gavrilov, like Brun, subscribed to the wide horizon that characterized the field of mental hygiene and proposed an educational plan for children, written in

Freudo–Pavlovian code, which would allow people to avoid problems associated with inappropriate sexuality, marriage failures, prostitution and street violence (1953, pp. 187–90). The productivity of Gavrilov's thought was more theoretical than practical: he sought to achieve the extension of the theoretical bases of psychoanalysis and, with that, to create a widespread and flexible psychobiological justification of existing practices.

Gavrilov's second book received positive responses from doctors and psychiatrists in specialized magazines and newspapers with ample circulation such as *La Nación* (*The Nation*) (Gavrilov, n.d., pp. 14–5). It also circulated in Spain, where it was read and cited as a relevant reference for two important figures of Pavlovian and psychosomatic thought from the Iberian Peninsula: Santiago Monserrat-Esteve and Juan Rof Carballo (Bandrés & Llavona, 2003, p. 89); it even received a flattering commentary from Brun (1961, p. 308). In consequence, Gavrilov received enough recognition to be put in charge of UTN's Zoology Department in 1954. There, he taught biologists and psychologists and became one of the organizers of the first Argentine Congress of Psychology in Tucumán Province that same year. He also began to occupy various administrative and academic positions at UTN and at the Miguel Lilo Institute.

However, Gavrilov's theoretical project came up against several limitations. First, as of 1949, a circle of psychiatrists came together within the Argentine Communist Party – amongst them, one-time supporters of psychoanalysis such as Gregorio Bermann and Jorge Thénon – who, in agreement with Soviet Zhdanovism, appropriated the figure of Pavlov as guarantor of psychiatry's scientific validity and adopted a resolutely anti-psychoanalytic stance. Gavrilov's book received two reviews from this communist Pavlovism. The first was published by Miguel Sorín (1953), secretary of the editorial department of the *Revista Latinoamericana de Psiquiatría* (*Latin American Journal of Psychiatry*), a publication that was directed by Bermann. He found Gavrilov's extension of Freud's metapsychology to a general biological principle to be inadmissible. The main problem was that he equated man with animals, disregarding the Pavlovian idea of language as a secondary sign language exclusive to human beings. Moreover, he considered that, by not drawing a distinction between 'biometaphysical' drives and 'normal and pathological human psychical activity', the zoologist assumed an 'undoubtedly mechanical biologism' (Sorín, 1953, p. 66). The second review was written by Juan Enrique Kusnir in *Cuadernos de Cultura* (*Cultural Notebooks*), a PCA publication directed towards its own intellectuals, artists and scientists. According to this psychiatrist, Gavrilov's book was an 'outdated' attempt at 'unifying something that has already been widely proven: that I.P. Pavlov's doctrine never has, nor cannot have, any relationship to the psychoanalytic school of thought'. According to this review, this 'absurdity' was based on what seemed to be

a search for a scientific base to speculative psychological theories, a point of view shared by American psychoanalysts and behavioural psychologists (Kusnir, 1953, pp. 139, 141). He was thus opposed to the idea that Pavlovian neurophysiology needed the participation of psychoanalytic notions, given the idealism and irrationalism that was inherent in Freudian theory. Both reviews revealed the sectarianism of this communist psychiatry that was attempting to monopolize all references to Pavlovian thought, establishing which variations they considered acceptable and which they did not. Gavrilov's book was thus inadmissible for this communist psychiatry because it considered psychoanalysis a fruitful guide for neurological research. In other words, it was psychoanalysis that lent pertinence to Pavlov's empirical research and, without it, that research was reduced to a methodological exercise of limited range (Vezzetti, 2006, p. 54).

Gavrilov acknowledged these critiques and wrote a long defence of his ideas in the last text he dedicated to the intersections between Freud's and Pavlov's thought. He recognized that within Pavlovian thought existed disputes between the different philosophical frameworks with which phenomena are interpreted. He made explicit that his epistemic framework was a 'globalism', for which subjective lived experiences were

> one of the specific qualities of all the intertwined dynamisms that participate in the whole organic process of the living being, equipped with so called physical qualities and with those deemed subjective or mental qualities, characterising the total set of dynamisms at play. (Gavrilov, 1960, p. 402)

Based on this he maintained that

> the course of the development of ideas within the field of reflexology, *achieved freely and without ideological pressure*, inevitably leads towards the adoption of this more open, globalist conception that overcomes mechanicism and includes dialectics – taken in its purely philosophical and scientific sense – completing it with new laws and principles. (Gavrilov, 1960, p. 402, my emphasis)

This defence of the value of the neutrality of science could not be well received by communists, given that they deplored this position as bourgeois ideology, even less the notion of a superior holism that would 'complete' dialectical materialism.

Second, at the turn of the decade, psychoanalysts from the APA began to distance themselves from medicine and from a biological conception of psychoanalysis. An important number of their members clung to Kleinism and, although they did not ignore psychosomatics, they no longer needed to implant themselves within the medical world in order to legitimize themselves as psychoanalysts. Other APA members focused on generating a new professional medium. A heterodox psychoanalysis began to emerge, led by Pichon-Rivière, dedicated to working with groups as a therapeutic

method and alternative theoretical model. This strain of thought included authors and procedures that were distanced from the field of medicine. In 1954, the Argentine Association of Psychology and Group Psychotherapy was created and supported by all members of the APA (Dagfal, 2009, pp. 146–7, 158–9).

However, the idea persisted amongst some APA psychoanalysts that psychoanalysis could be linked to Pavlovian neurophysiology – and that, in fact, the latter theoretically supported the former. For example, Marcos Victoria, then director of the School of Psychology of the UBA along with Celes Cárcamo, another APA founder, claimed that 'Pavlov's work – along with that of his disciples and followers – on experimental neuroses have contributed to providing a satisfactory, physiological explanation for the psychological processes described by psychoanalysis' (Victoria & Cárcamo, 1956, p. 375). Marie Langer, another member of the originating nucleus of the APA, considered that Pavlovian reflexology was in agreement with psychoanalysis in its 'concept of the unity of the organism' and that it was even closer 'to our focus when declaring that the re-establishment of superior nervous activity is a cure for [psychosomatic] illnesses' (Langer, 1959, pp. 402–3). José Bleger, member of the APA and the PCA, in his book *Psicoanálisis y dialéctica materialista* (*Psychoanalysis and Materialist Dialectics*) – which placed him in direct conflict with communist Pavlovians – maintained that 'the clinical work proposed by psychoanalysis is undoubtedly supported by reflexology' (Bleger, 1962, p. 56). Horacio Etchegoyen (1963), another prominent Argentine psychoanalyst, considered the Pavlovian school of thought as one of the three great schools of thought of psychotherapy, alongside the psychoanalytic and 'anthropological-existential' ones, and set himself the objective of creating a neurophysiology and reflexology laboratory in the Department of Medical Psychology of which he was the director at the National University of Cuyo's School of Medicine, although the project was never realized.

In any case, although Gavrilov's proposal was original and informed, and even if some members of the APA supported the relationship between psychoanalysis and Pavlovism, Freudo–Pavlovism was only one out of the many disciplinary options that the APA had, in order to establish itself as a referent institution in the field of psychoanalysis, psychology and mental health. Although Pavlov's ideas contributed to reinforcing the position of psychoanalysis, an active and systematic interest was not generated amongst psychoanalysts with respect to the sciences of the nervous system; communist psychiatrists finally managed to monopolize all references to Pavlov's work. After the 1960s, when Argentinian psychoanalysis decidedly distanced itself from nearly all references to biology, Gavrilov's productions on the topic of Freudo–Pavlovism were reduced to a few dispersed articles and, just like Darwin at the end of his

life, he became focused on his speciality, research on earthworms. This lifetime's work allowed him to discover a new species – the *Paranadrilus descolei Gavrilov, 1955* – and gain some international recognition in zoology (Righi, 1984).

Conclusion

This commentary on Gavrilov's work has sought to show the context in which he produced his ideas and the agenda of possible subjects that emerge out of the articulation between psychoanalysis and Pavlovian neurophysiology. The zoologist brought to Argentina a European discussion, at a very particular moment time: when the APA's members became interested in psychosomatics. While this interest lasted, Gavrilov managed to hold on to an active place in the discussion. However, later on, communist Pavlovism and a change in the theoretical options available at the APA and in the psychoanalytic field in general limited the range of possibilities available to Freudo–Pavlovism, even though some psychoanalysts continued using physiology to legitimize their work.

Gavrilov found in psychoanalysis the bases for a general vitalist philosophy and, in neurophysiology, the means to build his scientific base. His version of Freudo–Pavlovism, supported by cytology and comparative biology, offered a universal, biological metaphysics. Within this framework, Pavlov's theories were the intermediary between a strictly biological perspective and psychoanalytic theory. Gavrilov never lost sight of the fact that Freudian thought, regardless of how informed, needed to be corroborated with physiological knowledge. Thus, psychoanalysis needed Pavlovian neurophysiology in order to gain legitimacy as a science; the latter, by appropriating the former's agenda, legitimized and reinforced its importance.

This type of articulation, regardless of the kind of objections which could be made nowadays, were admissible inasmuch as they corresponded, at least in part, with the knowledge considered as scientific at that point in time. The combination between Freud's and Pavlov's ideas seemed to create a plausible platform for scientific imagination. From a historical point of view, it becomes relevant if considered a possible outcome of the works of Freud and Pavlov, developed by a group of international authors, and not merely as the speculations of a marginal author from a peripheral country. In this sense, it played an integral part in the widespread circulation of psychoanalytic theory and created new audiences and opportunities for discussion, along with multiple platforms for legitimization. The spread of psychoanalysis during the twentieth century cannot be considered without including the exchanges that broadened the dialogue between disciplines and heightened the hopes of discovering a scientific base for the psyche.

A psychoanalytic theory with a biological perspective was made possible and presumable by an evolutionary framework that persisted within the field of psychology, psychoanalysis and psychiatry well beyond 1933, due to the theoretical possibilities it provided. Evolutionism was a many-faceted political value from the 1850s on, and Freudo–Pavlovism, along with 'semiotic' or non-biological versions of psychoanalysis, did not remain untouched by mutations derived from evolutionist thought. In this sense, Freudo–Pavlovism's evolutionism, inasmuch as it was a discourse on the organic bases of life, allowed for the Viennese neurologist's and the Russian physiologist's dynamic models to be considered as part of a continued dialogue, during the nineteenth and twentieth centuries, between the fields of neurophysiology and psychiatry, a relationship whose effects seem not yet to have been exhausted.

The interest in Gavrilov's work also resides in the fact that, because of it, it has become possible to outline certain topics common to Freudo–Pavlovism: first, the theorizing and research of a biological dynamism based on the tendencies, instincts or antagonistic impulses of organisms; second, the manner in which instincts inherited by man operate on his psychical development and on psychopathology; third, the scientific status of psychoanalysis, and the broadening or modification of hypotheses due to neurophysiological evidence and comparative psychobiology; and finally, the compatibility between the results of the clinical method and those of the experimental method, particularly those on neuroses.

The above agenda of topics can be outlined due to the fact that many of Gavrilov's opinions and stances were based on those of a group of American and European authors. Gavrilov was well versed in the discussions on the physiological status of unconscious agencies and processes, the comparison between experimental neuroses and psychoneuroses and the translation of a range of psychoanalytic terminologies into a neurophysiological vocabulary. In this sense, his work takes a stance with respect to debates specific to a Freudo–Pavlovism that was more or less structured internationally and, because of this, made considerable efforts to contribute theoretically and broaden the topics tied to this psychophysiological field of study.

Besides those mentioned previously, a series of authors could be included in the project of developing psychoanalytic thought based on neurophysiological research: Ossip-Lourié, Horace Wesley Frink, René Allendy, Rudolph Loewenstein, Georges Parcheminey, Jean Frois-Wittman, George Kreezer, Horsley Gantt, Paul Meignant, Jules H. Masserman, Franz Alexander, Yuri P. Frolov, Konstantin I. Platonov, Abram M. Sviadosch and Filipp V. Bassin. Although this list is far from being homogeneous and its terms are incomplete and unrelated, these authors, in different ways, searched for the physiological bases with which to think about the psyche's dynamic processes. This group of figures were

part of the effort to research the heterodox, biological bases psychoanalysis has used in order to develop both as a body of thought as well as a movement. Although Gavrilov was able to gain some visibility within local psychoanalytic and psychiatric circles, the APA's support of his work fluctuated and he also received strong criticism. His position remained relatively marginal with regard to Brun, but was much more stable and prolific if compared with Trotsky's fleeting Freudo–Pavlovism. How this particular combination of authors dedicated to Freudo–Pavlovism was configured, what was the concrete disciplinary support of this movement or what practical outcomes it had, are all still matters for further investigation.

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ABSTRACT

This paper examines the work of the Russian zoologist Konstantin Gavrilov (1908–82) in Argentina, in the light of a series of authors who tried to find connections between Sigmund Freud's and Ivan Pavlov's ideas. This theoretical effort is designated as Freudo–Pavlovism, and it intended to offer neurophysiological evidence to psychoanalytical thesis in order to build a holistic theory of the psyche. Freudo–Pavlovism is considered a possible extension of Freudian ideas within an evolutionary framework. Gavrilov's ideas on the compatibility of Freudian and Pavlovian theories are analysed, as well as the support given by Argentinian psychoanalysts and the criticism that his work received by communist psychiatrists.

Key words: psychoanalysis, neurophysiology, history, evolutionism