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Janna M. Glozman: Her effort to bridge the gap between Eastern and Western neuropsychology and the three-generational model of applied neuropsychology

Janna M. Glozman: Su esfuerzo por cerrar la brecha entre la neuropsicología oriental y occidental y el modelo de tres generaciones en neuropsicología aplicada de tres generaciones

Janna M. Glozman: Seu esforço para preencher a lacuna entre a neuropsicologia de leste e ocidental e modelo de três gerações em neuropsicologia aplicada

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Palavras-chave: neuropsicologia geral, neurologia do comportamento, dificuldades de aprendizagem, neuropsiquiatria, neuropsicologia de leste, neuropsicologia ocidental.

A B S T R A C T

In recent years, neuropsychology has grown significantly. But its evolution did not follow the path common to other sciences in terms of a debate between different authors, to evolving into a "general neuropsychology". Many professionals with the same designation, neuropsychologist, have completely different understandings, use terminology, and approaches of working. Different ideas naturally mark the evolution of neuropsychology, but from which new schools derive. The absence of debate inhibits us to taking advantage of the many new contributions from nearby areas of knowledge, such as linguistics, molecular biology and, particularly, neurosciences. Janna Glozman develops a classification into three phases of the evolution of neuropsychology, which exactly contributes to bridging the gap between eastern and western neuropsychology, and opening the dialogue, between professionals who work in neuropsychology with different populations and in different contexts, whether in connection with neurology and neurosurgery, pedagogy, or psychiatry. This work is a tribute to the great professor, researcher, and practical neuropsychologist. But it is also an invitation so that others to continue her work.

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R E S U M E N

En los últimos años la neuropsicología ha crecido significativamente. Pero su evolución no siguió el camino común a otras ciencias en términos de debate entre diferentes autores, hasta evolucionar hacia una "neuropsicología general". Muchos profesionales con la misma designación, neuropsicólogo, tienen conocimientos, terminología y enfoques de trabajo completamente diferentes. Diferentes ideas marcan naturalmente la evolución de la neuropsicología, pero de las que derivan nuevas escuelas. La ausencia de debate inhibe a la hora de aprovechar las muchas nuevas aportaciones de áreas del conocimiento cercanas, como la lingüística, la biología molecular y, en particular, las neurociencias. Janna Glozman desarrolla una clasificación en tres fases de la evolución de la neuropsicología, lo que precisamente contribuye a cerrar la brecha entre la neuropsicología oriental y occidental, y a abrir el diálogo entre profesionales que trabajan en neuropsicología con diferentes poblaciones y en diferentes contextos, ya sea en relación con neurología y neurocirugía, pedagogía o psiquiatría. Esta obra es un homenaje al gran profesor, investigadora y neuropsicóloga práctica. Pero también es una invitación para que otros continúen su obra.

R E S U M O

Nos últimos anos, a neuropsicologia tem crescido significativamente. Mas a sua evolução não seguiu o caminho comum a outras ciências em termos de debate entre diferentes autores, para evoluir para uma "neuropsicologia geral". Muitos profissionais com a mesma designação, neuropsicólogo, têm entendimentos, usam terminologia e abordagens de trabalho completamente diferentes. Ideias diferentes marcam naturalmente a evolução da neuropsicologia, mas das quais derivam novas escolas. A ausência de debate inibe de aproveitar as muitas novas contribuições de áreas próximas do conhecimento, como a linguística, a biologia molecular e, particularmente, as neurociências. Janna Glozman desenvolve uma classificação em três fases da evolução da neuropsicologia, o que contribui justamente para fazer a ponte entre a neuropsicologia oriental e ocidental, e abrir o diálogo, entre profissionais que trabalham em neuropsicologia com diferentes populações e em diferentes contextos, seja no que diz respeito à neurologia e neurocirurgia, pedagogia ou psiquiatria. Este trabalho é uma homenagem à grande professora, pesquisadora e neuropsicóloga prática. Mas é também um convite para que outros continuem o seu trabalho.

Of the mark that Janna M. Glozman (1944 – 2022) left in the history of neuropsychology, two contributions are particularly relevant: 1) the contribution to a General Neuropsychology and 2) the Generational Conception of neuropsychological practice. It is these two contributions that I address in this work.

Janna Markovna has been working at the Faculty of Psychology of Moscow State University since 1970. Prior to that, she graduated from the Moscow Linguistic University in 1963 with a degree in general linguistics and French and worked as a translator. She happened to translate the conversations of A.N. Leontiev with foreign colleagues, which attracted her to the study of psychology. According to her own words, the conversation with Julian de Ajuriaguerra was decisive, who suggested that on her return to Moscow he look for Professor A. R. Luria. The opportunity occurred in 1966, when she came to the Burdenko Neurosurgery Institute with a guest, Henry Hécaen, as a translator.

J.M. Glozman entered the Faculty of Psychology of Moscow State University and graduated with honors in 1970 in the Department of Neuropsychology and Pathopsychology. The supervisor of her thesis work was A.R. Luria. In 1970, J.M. Glozman becomes a junior researcher at the Laboratory of Neuropsychology of the Faculty of Psychology of Moscow State University and begins working as a neuropsychologist at the Clinic for Nervous Diseases.

She combined practical work on diagnosing and correcting disorders of higher mental functions in brain lesions with scientific work, in which she uses her psychological and linguistic knowledge. In 1974, she defended her Ph.D. thesis on the topic "Neuropsychological and neurolinguistic analysis of agrammatism in aphasia".

In the late 1980's J.M. Glozman began to work in a new original area of "Neuropsychology of communication", which represents a systematic analysis of communication disorders in their relationship with personality changes. In 2000, she defended her doctoral dissertation on this topic, with the supervision of Professor L. S. Tsvetkova.

In 1999 he founded, with A. E. Soloveva, the Moscow Research Center of Pediatric Neuropsychology named after A.R. Luria. Here, she and her team dedicated themselves to studying children's developmental problems, particularly children with learning difficulties.

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Guided by her deep knowledge of cultural-historical neuropsychology, which she practiced, taught and researched for around thirty years, and also knowledgeable about the work carried out in the West, J. Glozman was able to structure methodologies that had, and continue to have, great success in the Federation Russian, but also in many other countries on different continents. Throughout the year, professionals and students visited Moscow to receive training at the Moscow Research Center of Pediatric Neuropsychology, training completed with the many classes and lectures that Professor Janna Glozman presented in many countries on all continents.

When he passed away on March 4, 2022, J. Glozman was the author of more than 200 publications in Russia and abroad, including seven monographs and textbooks. Her international recognition was reflected in the many awards and decorations she received and, for example, in her status as a full member of the New York Academy of Sciences[1].

Contribution to a General Neuropsychology

Psychology, and in particular neuropsychology, is now one of the most popular sciences for young students. But whether academic production or professional practice, it is still in crisis. When we look together at two different approaches, we realize the enormous amount of syncretism. They are not only two different approaches to the same science. They are more than that, they are different areas of knowledge, with very different practical implications. Discussion of psychology with the other sciences researching the same "objects" is nonexistent. So when it comes to practice, many of young psychologists leave the profession (Quintino-Aires, 2016a).

During the 20th century, we can say that two schools of neuropsychology were organized. Completely impenetrable to each other, like two sciences that intend to work on the same object, but with methods and terminologies so different, that the specialist in one of the “neuropsychologies” is incapable of understanding the work of the other. On the one hand, Cognitive Neuropsychology, in some way continuing the Behavioral Neurology that was practiced in the West, and in terms of clinical practice guided by psychometrics. On the other hand, Cultural Historical Neuropsychology, initiated by L. Vygotsy and A. Luria in the former Soviet Union, which in terms of clinical practice has a qualitative orientation.

This makes the dialogue between different psychologists impossible. This impossibility of dialogue makes it impossible to produce a General Psychological [Neuropsychology] Science, as Vygotsky (1927) invites us to do. But the problem is that, even if we are specialists in dialogue, in relationships, and in communication - and we can find thousands of psychologists who work only on dialogue, communication, and relationships - we still act like a group of people sitting in a circle, each looking away, i.e., neither looking at nor seeing each other.

A. Luria's scientific work is recognized as of high caliber all over the world. But almost nothing known. In a book about A. Luria's aphasia theory published in Canada (Kagan and. Saling, 1997, pp. 9), it can be read: “Although Luria's name is known in a historical context, many speech therapists [and neuropsychologists] are unfamiliar with his work, and there have been relatively few attempts to assess the contribution of his neuropsychological approach to the assessment and treatment of aphasia”.

In the preface to that book, it can also be read in the words of A. L. Holland: “The power of this book is that it brings Luria to those of us who know we should but have never developed the patience and perspective necessary to read him in full. comprehensive way.” (Kagan and Saling, 1997, pp. 5).

All this happens not because Cultural Historical Neuropsychology was “hidden”, closed in a university department. At the end of a lecture by A. Luria in the USA in 1960, in which he presented and defended the qualitative method in neuropsychology, professor Arthur L. Benton (1909 – 2006), professor of Psychology and Neurology at Iowa State University, and quite known and respected in neuropsychology in the West, said at the end: “The diagnostic methods that Professor Luria described to us are of the greatest importance. One of the most interesting is the one that, as he told us, was devised by Vygotsky about 30 years ago, in which the change in the level of performance is observed as a function of the change in the test condition.” (Mathews, 1961, pp. 15)

He added: “Some of us suspect that this type of information may have considerable prognostic value regarding the question of the response of brain injured patients (adults and children) to rehabilitation measures. It is obvious that Professor Luria and his colleagues are way ahead of us in investigating this problem.” (Mathews, 1961, pp. 15)

[1] Janna married Naum Michailovich Glozman in 1960, with whom she had a son named Leonid.

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The cause of the difficulty in constructing a General Neuropsychology lies in the inability to dialogue. As L. Vygotsy wrote: “A general science happens to be distinguished from a particular discipline, not because it has a broader scope, a higher content, but because it is qualitatively differently organized” (Vygotsky 2011/1927, pp. 361). Which requires debate. And without debate, neuropsychology cannot establish itself as a general science.

It fails to carry out the process that L. Vygotsy put very clearly: “When various disciplines have a tendency to develop into a general science and extend their influence on adjacent areas of study, a general science arises from the need to unite heterogeneous branches of knowledge” (Vygotsky 2011/1927, pp. 373). And with the lack of this process based on debate, what in the 20th century we called “Neuropsychology”, was, in fact, a group of three disciplines developed in parallel (almost) without intersecting: behavioral neurology, cognitive neuropsychology and Historical-Cultural neuropsychology.

It was exactly regarding this debate, through her ability to create dialogues, that Janna Glozman left her mark on the history of neuropsychology. Many others have attempted to bring Eastern and Western neuropsychology together, such as Ch. Golden, A.D. Purisch, and T.A. Hammeke (1979), von W. Hamster, W. Langner, and k. Mayer (1980), J. Peña-Casanova (1990), G. Deegener et al. (1991), F. Manga and D. Ramos (1991), and many others.

But Janna Glozman did not just try to combine the materials of Eastern neuropsychology with Western methodology. She, knowledgeable and practicing Historical-Cultural neuropsychology, considered what in Western neuropsychology was understood to be the most important, quantifying, recognizing the need to unite heterogeneous branches of knowledge. She did not combine materials from one approach with the method of another, as so many did, and which in the end always reduced Historical-Cultural neuropsychology to Western neuropsychology.

In these other attempts, even if they put A. Luria's name in the name of the battery or test, in the result they only made a psychometric, A. Luria's non-psychometric approach (Akhutina and Tsvetkova, 1983). What J. Glozman did was attempt a General Neuropsychology, and using L. Vygotsy's words, “a general science is a science that receives material from a variety of particular disciplines, and then prepares and subsequently generalizes them, a process impossible within each separate discipline.” (Vygotsky 2011/1927, pp. 373).

In a very synthetic way, we can associate psychometrics with western neuropsychology and syndromic analysis with eastern neuropsychology. What Janna Glozman developed at the Neuropsychology Center that she directed in Moscow, and also in the various departments with which she collaborated in many countries, was a syndromic analysis methodology that integrates quantification, or if you prefer, a quantitative method that is impossible to carry out without a syndromic analysis in the attribution of numbers. That is, and once again using the words of L. Vygotsy, what she developed was a “unity [that] is achieved through subordination and dominion, through the fact that particular disciplines renounce their sovereignty in favor of a general science.” (Vygotsky 2011/1927, pp. 391).

We first encounter this approach in her work together with D. E. Tupper (Golzman and Tupper, 1995), from Hennepin County Medical Center Minneapolis, MN, USA. In 1999 she published the article “Quantitative and qualitative integration of Lurian procedures”, in Neuropsychology Review, and D.E Tupper “Introduction: Neuropsychological Assessment Après Luria, in the same year and in the same magazine.

Also in an article in Spanish, in 2002. And in 2006, his book “The quantitative assessment of neuropsychological research data” was published in Portuguese translated directly from Russian by Dina Paulista at the IPAF publishing house in São Paulo, where she presents her scoring system based on the syndromic analysis of neuropsychological activity. patient being investigated, and not just a system of points for success or error or for the time taken by the person being evaluated to carry out the task.

About her Contribution to a General Neuropsychology, Bożydar Kaczmarek wrote in 2013 about her book “Developmental neuropsychology” published by Routledge that year: “Janna Glozman’s book provides a comprehensive information on both Russian and Western developmental neuropsychology. The reader, especially from the West, may find fist-hand information on Vygotsky and Luria’s collaboration with emphasis put on social aspects of child development. At the same time the reader can learn about principles of Luria’s syndromological (qualitative) approach and Vygotsky’s zone of proximal development. Two important notions that had a great impact both on the neuropsychological and developmental studies” (Kaczmarek, 2013, pp. 118).

Within the collaboration that J. Glozman developed with several colleagues from Latin America, it is important to mention the publication “Neuropsychology applied to human development” in 2017, a collective book coordinated by Carla Anauate and Janna Glozman published by Memnon, and her book “A neuropsychological practice based on Luria and Vygotsky” with English translation from English by Carla Anauate, published in Brazil in year of 2014 also by Memnon. Two books that show

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the bridge of the gap between eastern and western neuropsychology, and that I consider fundamental for all those who want to achieve a general neuropsychology.

In her work he tries to find meaning for a neuropsychology that recognizes advantages in the different approaches still present today, and reconfigures them, not just sticking to any of them, not simply placing them side by side, but making something new emerge. “As already stated, Luria’s approach presupposes a qualitative analysis of the symptom under study, based upon an understanding of the factors, underlying complex psychological activities. The quantitative evaluation of disturbances is of primary value for determining the dynamics of change in cognitive functioning during neuropsychological follow-up, and for measuring the outcome of rehabilitative or remedial procedures” (Glozman, 2020, pp. 42).

Three-generational model of applied neuropsychology

The other contribution that Janna Glozman clearly left in the history of neuropsychology was the organization of the different areas of application of neuropsychology. Today, neuropsychology is not just the study of the relationship between the brain and behavior, as initiated by the Localizationists with Paul Broca in 1861, or even the work developed by A. R. Luria in the 1940's in Kisegash, in the assessment and rehabilitation of war soldiers with local brain lesions.

Neuropsychology today provides guidance on specific learning disabilities, such as dyslexia, dyscalculia, etc. (Luria and Tsvetkova, 1987; Solovieva and Quintanar, 2016; Solovieva, Quintanar, and Sidneva, 2021; Quintanar and Solovieva, 2004a, 2004b, 2005, 2016; Veraksa et al., 2018; Glozman, 2011; Glozman and Soboleva, 2018).

And it is also an important component with patients who have traditionally been associated with psychiatry, but without the intervention of a neuropsychologist, with anxiety disorders, obsessive-compulsive disorder, depression, attention deficit hyperactivity disorder, conduct and oppositional disorder, etc. (Horton and Puente, 1986; Glozman and Krukov, 2013; Quintino-Aires, 2016b, 2020, 2021, 2022).

But the same parallel lines that can be observed in the work of neuropsychologists with different approaches, as I mentioned before, also seem to be found in neuropsychologists who work in practice with neurology/neurosurgery, pedagogy, or psychiatry teams. When they meet and talk, they seem to be specialists from distant disciplines, almost afraid of appearing to not understand each other's work. It is in the understanding that the differences are not so real after all, and that a dialogue is possible, that Glozman's work becomes truly important. How does she do this?

Using the words of J. Glozman, “the evolution of neuropsychology coincides with the universal tendency to replace a static neuropsychology, relating the individual’s behavior to fixed cerebral lesions, by a dynamic neuropsychology, which analyzes the dynamics of brain-behavior interaction in different social conditions and at different steps of ontogenic evolution.” (Glozman, 2020, p. 29).

Continuing her previous works, J. Glozman wrote an article in 2020, “Neuropsychology in the Past, Now and in the Future”, in which she summarizes very clearly the way in which neuropsychology has evolved to the present day. In this article, she presents the ideas of the Moscow school - L. Vygotsky, A. R. Luria and A. N. Leontiev -, and how later other authors from other countries and other areas of science, in particular neuroimaging, walked alongside meeting of the school that emerged in the 1920’s in Moscow. But it also brings an analysis and confrontation with authors within Western neuropsychology, which she knows very well.

It is very interesting to carefully read her article, as it helps the less attentive reader to understand what different schools of neuropsychology share. Glozman looks for what the different authors say, and explains the foundations of neuropsychology, when neuropsychologists are working with clients whether in neurology and neurosurgery, or in psychiatry or pedagogy. She describes what we can find in common in the theoretical foundation of the work with populations of different typologies (neurological, pedagogical, and psychiatric), and also introduce the debate about what is different, or even in contradiction, which is always the first step for the evolution of scientific knowledge.

She then begins by presenting a model on the evolution of neuropsychology, which is structured into three phases. A first phase focuses on the study of the brain and its relationship with different behaviors. At this stage in which neuropsychology is considered “a field of practical medicine”, an expression she attributes to Luria, in 1973. The study of the brain organization of mental activities.

Basically, trying to understand how the brain produces mental activity. Here we study the normal and pathological brain when affected by injury or degenerative processes, and which is still recognized today when we talk or read articles or books by colleagues who work in neurology or neurosurgery teams. In terms of theoretical neuropsychology, it is the tradition of the first generation of neuropsychologists, carried today, at least in discourse, in applied neuropsychology when integrated into these teams, whether in the medical or surgical field.

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In a second phase of the evolution of neuropsychology, there is a sort of inversion of the primacy of interest in the study. It is no longer the study of the brain and how it relates to different behaviors, but rather the study of the structure of each mental activity and subsequently its location in the brain. Here the studies of experimental and cognitive psychology gain greater importance than the study of the morphology and physiology of the brain. Advances are being made in areas that concern psychologists, such as the problem of attention and perception, how the process of reading, writing and mathematical calculation are, and how and why these processes sometimes appear compromised, as in the cases of dyslexia, dysorthography and dyscalculia.

At this stage, to the classic syndromes already studied, also arises attention and study of syndromes of underdevelopment or not typical development, resulting in learning disabilities. This second generation of neuropsychology will naturally find its way into schools. And what we can name pedagogical neuropsychology or neuropsychology of learning disabilities.

Naturally, here the population in demand for applied neuropsychology intervention is much larger. And quickly the number of neuropsychologists working in this area, 2nd generation neuropsychologists, significantly surpassed those of the 1st generation. This resulted in a broadening of interest in neuropsychology, and in the 1990's we saw the introduction of the study of neuropsychology in many undergraduate psychology departments. This phase corresponds to an evident increase in professionals involved in neuropsychology and, naturally, the number of studies and publications dedicated to neuropsychology also increases significantly at an international level.

A third phase of evolution in neuropsychology focuses on the interrelationship between a patient and his or her environment and integrates neuropsychological and real-life data. Patients with mental disturbances in real world also become part of the study of neuropsychologists. The focus is no longer on how the brain influences mental activity or how mental activity influences the brain. In this 3rd generation of neuropsychologists, the focus is on the mutual interaction of the brain/mental activity unit (from a monistic perspective) and society.

At this stage in the evolution of neuropsychology, neuropsychologists begin to study and work with people with anxiety disorders, obsessive-compulsive disorders, depression, bipolar disorder and schizophrenia, attention deficit hyperactivity disorder, oppositional and deviant disorder, eating disorders, addictive disorders (alcohol and illicit and legal drugs, such as benzodiazepines), etc. In other words, a new area of intervention of applied neuropsychology has emerged with people who traditionally received attention from psychiatry. The contribution that neuroscience, in particular neuroimaging with its different techniques, has brought over the last two decades to this 3rd generation of neuropsychologists is notable.

Somehow the last two generations of neuropsychologists rescue something fundamental in L. Vygotsky, A. R. Luria and A. N. Leontiev. “We need to step outside the organism to discover the sources of specifically human forms of psychological activity and the way natural processes such as physical maturation and sensory mechanisms become intertwined with culturally determined processes to produce the psychological functions of adults (Luria, 1979/1982, p. 43).

And the more knowledge in molecular biology and neuroscience advances, the clearer the classic ideas of the Moscow school become. As A. R. Luria (1987) presented Vygotsky's idea: “In order to explain the most complex forms of human conscious life, it is essential to leave the limits of the organism, to look for the origins of this conscious life and 'categorical' behavior, not in the depths of the brain or soul, but of all, of relational life, in the social-historical forms of human existence” (Luria, 1987, pp. 21).

We could summarize, again with the words of A. R. Luria, what was already present in the Moscow school and which becomes comprehensible and global with neuropsychologists of the 2nd and 3rd generations: “Attempts to search for the material substrate of consciousness at the level of the individual synapse or neuron (a level that, of course, plays a very important role in the basic physiological mechanisms, essential for all psychological activity) are beginning to be totally useless” (Luria, 1987, p. 22).

What seems innovative and extraordinarily relevant to me in Janna Glozman's work was finding what is common and debating what is different in theoretical “neuropsychologies” from the East and the West, bridging the gap and preparing the basis for filling the gap between the two, and for her analysis of the evolution of neuropsychology that he organizes into three generations, she did the same with applied “neuropsychologies” working with different populations, namely, neurological, pedagogical and psychiatric.

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CONCLUSIONS

Alongside her work as a professor and researcher at Moscow State University, and as a neuropsychologist and therapist at the Moscow Research Center of Pediatric Neuropsychology, Janna M. Glozman made an important contribution to bridging the gap between Eastern and Western neuropsychology, as well as to bridging the gap between professionals working in different areas of applied neuropsychology, in this case with her three-generational model of applied neuropsychology.

Her method for this important contribution to the construction of a basic general neuropsychology in the different "schools" of theoretical and applied neuropsychology (different contexts and populations in which professionals work), is reminiscent of the process of *generalization* as described by Vygotsky (1934) in the formation of scientific concepts. It is, without a doubt, essential for the formation of an academic and applied scientific neuropsychology, as we all wish to achieve. But it doesn't exist yet.

It is important to mention the difficulty of this work. And often, apparently, less attractive than developing and presenting new ideas and methods. A job that requires carefully revisiting what others authors presented, whether others in the past or others belonging to different departments even from different countries.

This area of Glozman's work that I highlight here, preparing mutual understanding between different neuropsychology professionals, allowing effective communication between all of them. It is perhaps better called by the Russian word *общения,* because it implies an *accomplice communication*, is for me difficult to dissociate from her first profession as a translator-interpreter, in the case of Russian-French, where the great challenge and the great art is precisely to allow effective communication between people who use different languages.

This work of mine is a tribute to the great professor, researcher and practical neuropsychologist, Janna Glozman, with whom I had the joy of sharing almost three decades of my life as colleagues and friends. But it is also an invitation so that others to continue her work. As I believe it will be of great use for neuropsychology as a science, but also for the quality of the work that we offer every day to those who consult us in our different areas of activity.

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