

## HISTORICAL-CONCEPTUAL ANALYSIS OF BODY IMAGE IN SCIENTIFIC PSYCHOLOGY SOURCES (1900-1935)

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**ABSTRACT.** Body image researchers credit the neurologist Paul Schilder (1886-1940) with the term's definition in 1935. The analysis of the concept's composition can contribute to understanding its dissemination in a language community. We sought to identify the circulation of the idea in the psychology literature in the early twentieth century through a conceptual analysis of primary sources. Articles published in Psychology scientific journals and Psychology books between 1900 and 1935 were reviewed. Sources published in Spanish, French, English and Portuguese were accessed. Only two articles presented an explicit reference to the term body image, while the other articles touched on body image ideas. On the other hand, the psychology books' texts did not present explicit references to the concept. Still, they described theories aligned with research on body perception within primary psychological processes literature. The general understanding of body image inherited by the literature in psychology was preceded by definitions associated with body scheme, such as the perception of movement and proprioception.

**Keywords:** Body image; conceptual analysis; history of psychology.

## ANÁLISE HISTÓRICO-CONCEITUAL DA IMAGEM CORPORAL EM FONTES CIENTÍFICAS DE PSICOLOGIA (1900-1935)

**RESUMO.** As pesquisas em imagem corporal creditam ao neurologista Paul Schilder (1886-1940) a definição do termo em 1935. A análise da composição do conceito pode contribuir para o entendimento de sua disseminação em uma comunidade de linguagem. Através de uma análise conceitual em fontes primárias buscou-se identificar a circulação do conceito na literatura de psicologia no início do século XX. Foram revisados artigos publicados em periódicos científicos de Psicologia e livros de Psicologia entre 1900 e 1935. Foram acessadas fontes nos idiomas espanhol, francês, inglês e português. Apenas dois artigos apresentaram referência explícita ao termo imagem corporal, enquanto os outros artigos tangenciaram ideias relativas à imagem do corpo. Já os textos dos livros de psicologia não apresentaram referências explícitas ao conceito, mas descreveram teorias alinhadas às pesquisas em percepção corporal pela literatura de processos psicológicos básicos. A compreensão geral de imagem corporal herdada pela literatura em psicologia foi antecedida por definições associadas ao esquema corporal, como a percepção de movimento e a propriocepção.

**Palavras-chave:** Imagem corporal; análise conceitual; história da psicologia.

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## **ANÁLISIS HISTÓRICO-CONCEPTUAL DE LA IMAGEN CORPORAL EN FUENTES CIENTÍFICAS DE PSICOLOGÍA (1900-1935)**

**RESUMEN.** Las investigaciones en imagen corporal acreditan al neurólogo Paul Schilder (1886-1940) la definición del término en 1935. El análisis de la composición del concepto puede contribuir al entendimiento de su diseminación en una comunidad de lenguaje. Desde un análisis conceptual en fuentes primarias se buscó identificar la circulación del concepto en la literatura de psicología a principios del siglo XX. Se revisaron artículos publicados en revistas científicas de psicología y libros de psicología entre 1900 y 1935. El idioma de las fuentes consultado fueran Español, Francés, Inglés y Portugués. Sólo dos artículos presentaron referencia explícita al término imagen corporal, mientras que los otros artículos tangenciaron ideas relativas a la imagen del cuerpo. Los textos de los libros de psicología no presentaron referencias explícitas al concepto, pero describieron teorías alineadas a las investigaciones en percepción corporal por la literatura de procesos psicológicos básicos. La comprensión general de la imagen corporal heredada por la literatura en psicología fue precedida por conceptualizaciones asociadas al esquema corporal, como la percepción de movimiento y la propiocepción.

**Palabras clave:** Imagen corporal; análisis conceptual; historia de la psicología.

### **Introduction**

The history of the body image concept is marked by the occurrence of different traditions and research projects. Several definitions are used to body image in recent history (Bailey, Gammage, & Van Ingen, 2017). In contemporary literature, one of the most used definitions indicates body image as beliefs about appearance, feelings and perception about the body, such as size and corporeity meanings (Mountford & Koskina, 2015). This polysemic scenario associated with the concept suggests the need to investigate the term's origin and conceptual circulation in initial references in modern literature. A factor that reinforces the thesis of conceptual plurality associated with body image is the diversity of knowledge fields where the concept has been applied since the beginning of the twentieth century.

At the beginning of the twentieth century, neurologists, behavioral scientists and philosophers turned to the investigation of body image in terms of its nature and meaning for the different ways of perceiving the body, the mental representation of the body and also the perception of phantom limbs (Grogan, 2017). In this period, the neurologists Henry Head (1861-1940) and Gordon Holmes (1876-1965) introduced the term 'body schema', defining it as the body model that each person has of himself (Head & Holmes, 1911). Through this schema, it would be possible to move and perceive the movements of the body. In their 1911 seminal article, Head and Holmes presented clinical cases in which they investigated the perception of two types of schemas: the first was related to recognizing body position in space. The second was the ability to locate stimulations in the body. With these cases' exposure, the authors identified that brain injuries could significantly affect these schemas, causing pictures of impairment in recognizing and executing laterality and non-recognition of their body posture.

Inspired by Head and Holmes's propositions, Paul Schilder (1886-1941) presented in 1923 a similar concept as talking about body space, which would mean the perception of the space that the body occupies and the perception of it in mind. Later, in 1935, Schilder

introduced body image as the three-dimensional body image associated with the space occupied by the body itself. This work has been pointed out as the text that popularized the term in psychology literature and other health sciences (Grogan, 2017). However, the definition presented by Schilder suggests a mixture between different concepts. Based on the considerations of Head and Holmes (1911) on body schema, Schilder defined the term body image in a way equivalent to that of schema: "The body schema is the three-dimensional image that everyone has of themselves. We can call it body image" (Schilder, 1999, p. 7). This notion of body image has been used, with some variations, in several new scientific literature branches, as in studies investigating groups diagnosed with eating disorders (McLean & Paxton, 2019).

Literature reviews on body image instruments' use confirm the plurality of definitions associated with body image expression (Castro, Pinhatti, & Rodrigues, 2017). Even if the diversity of theoretical origins and areas related to body image is recognized, there is no specific study investigating the source of the circulation of the concept in psychological literature and the possible reasons for its theoretically diverse diffusion.

The apparent diffusion and combination of different concepts, associated with the beginning of the circulation of the expression body image in the 20th century, raise an investigation about the emergence of the first versions of the concept in a specific literature context. Through a conceptual analysis, the present study aims to describe the circulation of the concept of body image in articles and books of psychology published between 1900 and 1935. The analysis will seek to identify the theoretical contexts, the semantic association network and the substitutive or equivalent terms to the body image enunciation.

## Method

### Sources and library collection procedures

For the sources' temporal demarcation, the selection of articles and books on psychology published between 1900 and 1935 was opted. The definition of this period for selecting articles and books is justified by understanding the circulation, in the psychology field, of topics related to the perception and mental representation of the body and the body schema. The period extends between the constitution and initial circulation of the term in this literature until the publication of Schilder's book (1935), considered to be a diffuser of the general concept of body image. The first stage of data collection focused on productions in a scientific article, while the second stage specified the search for psychology books.

Psychology articles were taken from journals in the field with full text available on the CAPES Journal Portal. Nine journals were identified between 1900 and 1935 with records available in the database, namely: *American Journal of Orthopsychiatry* (1930-present), *Journal of Abnormal Psychology* (1906-present), *Journal of Applied Psychology* (1917-present), *Journal of Comparative Psychology* (1921-present), *Journal of Educational Psychology* (1910-present), *Psychological Bulletin* (1904-present), *American Journal of Psychology* (1887-present), *Psychological Review* (1894-present), *Journal of Experimental Psychology* (1916-present). A second search was carried out in each journal, using the term 'body image' and marking the period from 1900 to 1935 or the journal's initial year of publication until 1935. The available articles with full text were included to be analyzed.

The psychology books were recovered from the library collections of Instituto de Psicologia da Universidade Federal do Rio Grande do Sul - UFRGS, at the central library of Pontifícia Universidade Católica do Rio Grande do Sul - PUCRS. Initial searches were done

in the virtual catalogs of the respective libraries with the search terms 'psychology', '*psicología*', '*psychologie*' and '*psicologia*'. The period from 1900 to 1935 was again selected as a time-interval of interest. The broad term 'psychology' is justified for establishing a baseline of the oldest texts of psychology available in the library collections to define the selection of sources related to the concept.

From the sources recovered in the virtual searches, exploratory visits to the libraries were carried out (Araujo, 2016). These visits to the library collections had the objective of accessing the material signaled in the virtual systems' searches and identifying any additional works that had not been recovered from the initial investigation. The books' manual examination consisted of the summaries' initial analysis by three researchers and subsequent verification of the books' contents, following thematic criteria concerning the pre-established concept by the research team.

## **Analysis procedures**

The source analysis procedures were inspired by the connective conceptual analysis model proposed by Ludwig Wittgenstein (1889-1950) and later developed by Gilbert Ryle (1900-1976) and Peter Strawson (1919-2006) through conceptual geography and grammar fields. This theoretical research strategy aims to clarify concepts (Hacker, 2013) through a descriptive and global analysis of a concept's structure in its enunciation in a language community (Banicki, 2011).

Conceptual geography consists of drawing a conceptual connective map of the enunciation area of a concept of interest. On the other hand, conceptual grammar consists of exploring the definitions of the concepts, respecting the rules and contexts in which it was used initially (Banicki, 2011). The development of this grammar would facilitate the distinction of themes adjacent to it and clarify possible confusions concerning its enunciation (Kuusela, 2013). The Wittgensteinian proposal is to build a map of the concept's statements, understand its scope, and how the concept became popular (Hacker, 2013). In cases where the concept has not yet been formally operationalized, we explore the associative terms and those considered constitutive of the concept or enunciating elements of the meaning associated with the concept already enshrined in its language context. These situations are common in historical analysis of terms in an emergency phase in a specific literature field.

In this study, this scenario of the emergence of the body image concept was configured in scientific literature, in this case, Psychology. When analyzing the expression in an immediately previous period to its modern operationalization, identifying terms associated with body image and current meanings in the period of its demarcation in 1935 was undertaken. Such terms and their definitions were appreciated for the creation of the conceptual grammar, in addition to the areas of knowledge in which the concept and its auxiliary terms were identified. The associated terms will be listed explicitly in the search results (see Figures 1 and 2, in the 'Results and Discussion' section).

## **Results and discussion**

### **Articles published in psychology journals between 1900 and 1935**

The nine psychology journals consulted during the period of interest published 11 articles linked to the descriptor 'body image'. Among them, one was the summary of an APA

meeting, and therefore it was excluded from the analysis. Table 1 shows the characteristics of the articles consulted.

**Table 1**

Articles Selected for Analysis

	Article title	Year	Author	Journal
1.	An Analytic Study of the Memory Image and the Process of Judgment in the Discrimination of Clangs and Tones (Concluded)	1902	Guy Montrose Whipple	The American Journal of Psychology
2.	Mind and body from the genetic point of view	1903	J. Mark Baldwin	Psychological Review
3.	The synthetic factor in tactual space perception	1905	Thomas H. Haines	Psychological Review
4.	The character of consciousness	1906	G. M. Stratton	Psychological Bulletin
5.	The Nature of the soul and the possibility of a psycho-mechanic	1907	C. L. Herrick	Psychological Review
6.	Professor Martin on the Perky Experiments	1913	E. B. Titchener	The American Journal of Psychology
7.	An Experimental Study of Kinaesthetic Imagery	1921	Alice Helen Sullivan	The American Journal of Psychology
8.	A case of complete loss of all sensory functions excepting hearing but including cœnesthesis and visual images of the body	1923	Morton Prince	The Journal of Abnormal Psychology and Social Psychology
9.	Behavior and Conscious Behavior	1923	Curt Rosenow	Psychological Review
10.	The somato-psyche in psychiatry and social psychology	1934	Paul Schilder	The Journal of Abnormal and Social Psychology

Source: The autor's.

Although the recovered articles are indexed with the term 'body image', not all of them presented a discussion of body awareness or body perception issues. From the ten articles analyzed, only Schilder's (1934) used the expression 'body image', and Prince's article (1923) used the term visual image of the body. Prince presented a clinical case, discussed through psychoanalytic ideas, about a woman who 'personalized' and 'depersonalized' herself from the use of inductive techniques to altered states of consciousness. The author assigned the patient's lack of body awareness to a state of hysteria and sexual repressions throughout life. In times of depersonalization, she lost the knowledge of her body and bodily sensations. The author referred to these bodily sensations as the body schema described

by Head and Holmes (1911) since the woman in the study was unable to cope with the movements she performed and did not know how to locate the body in space. Prince referred to this episode as the loss of the “[...] visual image of her body” (p. 240).

In his 1934 article, Schilder returned to Head and Holmes's (1911) ideas about the importance of the body postural model's knowledge. According to the author, this postural model or body schema could also be called a body image. This image is based entirely on sensations and partly on representations and thoughts. Even though it started from the notion of body schema, the differentiation of Schilder's concept was in the attribution of libidinal aspects to alter the body schema. The body's personality would characterize the body image, not only by its somatosensory image in mind.

This confluence of the notions of schema and image was pointed out by the philosopher Maurice Merleau-Ponty (1908-1961) as the beginning of conceptual confusion about the theme. Although the concepts can be understood in the same way, the body schema should be treated, according to Merleau-Ponty (2018), as the body's property in its entirety. This totality is the combination of bodily sensations and perception, but the expression of the body's intentionality towards the world.

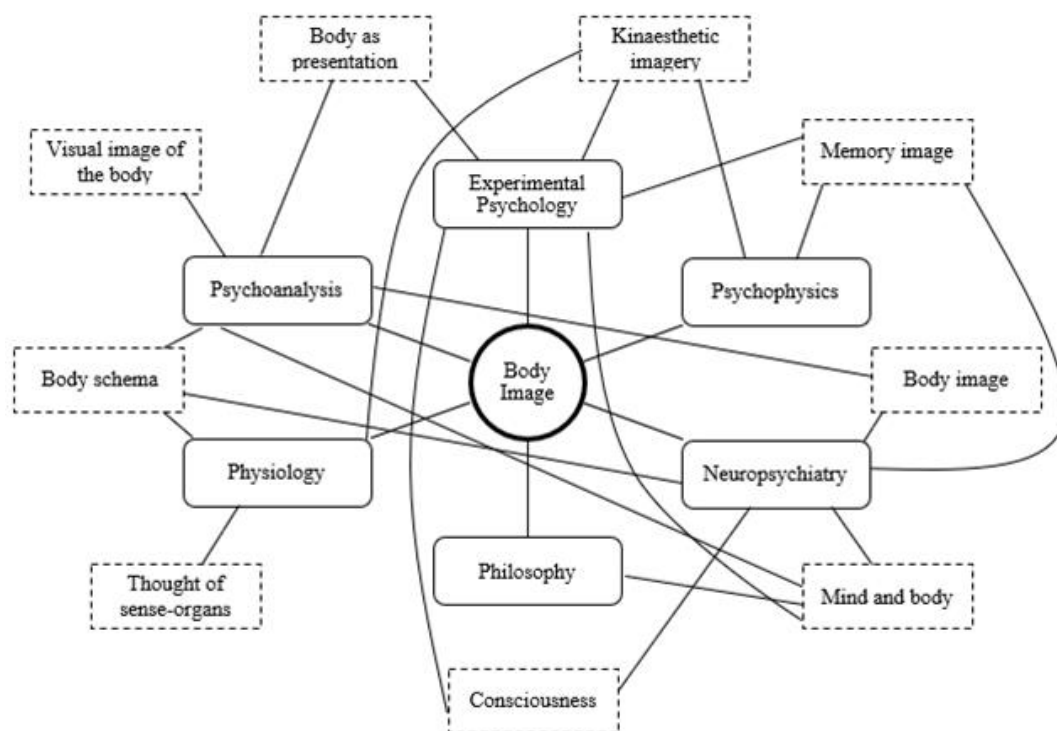
Schilder's article (1934) reveals the use of the concept of body image before the period signaled by the literature as a diffuser of the concept in 1935. The article indicates that the submission was made in July 1933 and that the same manuscript had already been read for the Massachusetts Psychiatric Association in February of the same year. This confirms that Schilder already worked with the notion of body image in a period before 1935, reported by the literature concerning a work published in 1923.

The other articles did not directly refer to the expression of body image nor discussed more direct theoretical issues related to constructing an image of the self. However, the articles evidenced the essay on a subjective element capable of differentiating the 'I' from the others. The focus of some of these studies was awareness. For example, for Baldwin (1903), the awareness of things outside the body could occur by recognizing the existence of other bodies and other minds, mainly by projections beyond the body and mind dyad. For Stratton (1906), an individual acknowledges himself as not being another from the study of consciousness. The bodily sensations are the example that best point to this construction, initiated in childhood since the child learns what thirst, hunger and other states are, recognizing that she feels it.

On the other hand, the selected articles by Whipple (1901) and Sullivan (1921) wove their discussions based on aspects of memory and kinesthesia image. Whipple sought to understand how this image influenced the perception and judgment of sounds. For this, it was necessary to know the influence of cognitive processes and how they were constituted in consciousness, besides understanding the auditory image's interferences in making judgments. Through a series of experiments, Sullivan sought to understand the differences between two forms of image, kinesthetic and memory, in attributive and perceptual terms. The kinesthesia to which Sullivan referred would be proprioception, defined as the form of broadening the body states. The author also refers to synesthesia, which corresponds to the ability to identify relationships between different senses that create a mental image of this intersection. The study of internal states and the creation of imagination and memory images suggests that kinesthetic images are active. This means that physiological and psychological sensations occur, but a complex sensory construction allows the self's recognition.

From the review carried out at this stage of the study, it was observed that the main element raised in the research was the body and bodily sensations perception. Although the

body image as proposed by Schilder (1935) was not the focus of the articles' discussions, the principles considered and analyzed by the authors suggest research topics for what would later be addressed in the notion of body image. Figure 1 shows the mapping of terms associated with body image and the areas of concentration of the articles surveyed. At the first level, the concept of interest, 'body image' (circle). At the second level, identified by the rectangles in complete lines, are the areas of the concept's enunciation, determined from the psychology area. At the third level are the terms of semantic association, identified by dashed rectangles.



**Figure 1**

Concepts mapping concerning the body image enunciation in articles.

Source: The autor's.

### Psychology books published between 1900 and 1935

The consulted library collections contained materials from various psychology fields, such as the psychology of morals and studies of basic psychological processes. Some of the books included in the preface or presentation to the reader the characterization of introductory manuals for use in regular courses for teaching psychology. The narratives, in general, consisted of analyzes and expositions of ideas and psychological theories in a preliminary character, being characterized as teaching manuals of psychology. In total, 166 psychology books were consulted, and 15 presented information of interest for the research. Table 2 shows the identification information for the selected books.

**Table 2**  
Psychology books published between 1900 and 1935

	Book title	Version Year	Author
1.	New Psychology	1904	J. P. Gordy
2.	Traité de Psychologie	1906	Georges Dwelshauvers
3.	Psychology: An introductory study of the structure and function of human consciousness	1908	J. R. Angell
4.	Elementos de Psicologia Experimental	1912	De Las Vaissière
5.	Philosophia: Logica, psychologia, história da philosophia	1923	Etienne Brasil
6.	Noções de Psychologia	1917	Manuel Bomfim
7.	A History of Experimental Psychology	1929	E. G. Boring
8.	Psicologia	1930	A. Sampaio Dória
9.	Compendio de Psicología	1930	William James
10.	Manuel de psychologie	1932	E. B. Titchener
11.	Tratado de Psicología	1933	Waclaw Radecki
12.	Psicologia	1933	Djacir Menezes
13.	Psicologia	1934	Abel Rey
14.	Psicologia do Comportamento	1935	Henri Piéron
15.	Introducción a la psicología	1935	E. von Aster

Source: The autor's.

In analyzing the material, we sought to identify the body's discussions to determine whether the source already had themes related to body image in its scope. In this sense, no direct references to the term body image were found, but themes were identified that illustrate how discussions about the body were taking place in the period. In general, book discussion trends focused on basic psychological processes such as perception, sensation and attention. About the body, the themes found are related to body awareness and perception (e Angell, 1908; Gordy, 1904; James, 1930; Rey, 1934) and kinesthetic sensations (Bomfim, 1917; Titchener, 1932).

Regarding body awareness and perception, the authors presented notions about the formation of body awareness and movement perception. In the book *New psychology*, Gordy (1904) defended the dual aspect between mind and body, pointing out that the body's knowledge occurs through bodily sensations. For the author, it is only possible to be sure of the awareness about mental facts so that the body's knowledge is had or built from the attention given to it. Similar to this proposition is the one elaborated by James (1930) in his *Compendio de psicología*, which is the Spanish translation of the condensed version of *Princípios de psicología* (1890). For James, the body's perception occurs through self and space, and the vision is a fundamental element for the task.

Another piece of evidence related to consciousness as a fundamental element for the body's perception is the chapter entitled 'the elements - the movements - psychological motricity' in the book entitled *Psicología* (Rey, 1934). In this chapter, Rey discusses the notion of the kinesthetic image or movement-image. This image would represent the body's movement that allows its coordination, which, when altered or disturbed, disrupts body coordination and locomotion. Such disturbances can be expressed in motor or visual form. This representational image is made up of several other images, such as those that



constitute sensation. This book is also the only reference that comes close to the notion of body image as described by Schilder in 1935. This is because the author speaks of the body's total image, which allows the movement-image since it is necessary for the individual to recognize the surrounding space to act on it. This recognition consists of two body atlases, one corresponding to the muscles and the other corresponding to the body location.

For James (1930) and Rey (1934), there must be a body awareness to realize the movement and actions directed to the external environment. James' (1930) appraisals mainly refer to the consciousness flow, which allows bodily perceptions synthesis when directed to the body and its elements. Thus, it is about isolated consciousness but rooted in bodily elements, pointing out that tactile, visual and auditory sensations also contribute to the constitution of consciousness as the self or a real object.

The book *Psychology: an introductory study of the structure and function of human consciousness* by Angell (1908), in the chapter on space-time relations, contains an analysis of movement and how mental representations are involved in its realization. In this appreciation, the author referred to the sensations of motion, which are part of the spatial representation. Physical changes such as blindness can dramatically hinder the perception of movement and, therefore, body perception. According to Angell, skin stimulation is only perceived by perceiving that something touches a greater or lesser extent of the body. The example given by the author is the different perceptions in the size of objects on the forearm and fingers. These sensations of touch refer to the body surface, which Head and Holmes (1911) later called superficial body schema. For Angell (1908), the sensations of touch are projected and extended to the objects handled by the individual. According to the author, the movements intend to have meaning if there are representations of the body and the motions that will be performed. Perceptual space, in turn, is constantly changing, with its state varying according to the experiences of individuals. Adults perceive movements immediately and non-reflexively, unlike babies, who would not have these precise perceptions.

In *Noções de psicologia*, Bomfim (1917) indicated that sensations were studied by different researchers, with other names and understandings for what would be the same phenomenon, making a definition unit impossible. In psychology, sensation is defined as the elementary fact of consciousness. In contrast, in physiology, the sensation is understood as an excitatory change that initiates a nervous process and constitutes the psychological phenomenon of sensation. Then, sensory activities would produce the "[...] kinesthetic sense" (p. 55), described as a sense of movement or one's attitudes, which always identify parts of the body in space. The learning of space, in turn, would take place both through the exercise of the body-space relationship and physiological changes.

In describing the kinesthetic sense's synonymies, Bomfim indicated that such sensations do not exist primarily but are unified in consciousness. The sensation of the body's position is built by the muscles, joints, tendons and vestibular apparatus. It is the processing of this information that will cause a sensation in some part of the body. On the other hand, the body's perception depends on the sense of affections, as everyone perceives objects and actions concerning the body according to their perspective and personal valuation.

In the book *Psicologia* by Dória (1930), motor sensations divided between simple and mixed are presented. First, the organs' general state, the trunk and limbs' position and movement are classified. Mixed senses can be visual or tactile. The author pointed out the motor sense as particularly important for the individual. It is from the organization of these sensations that objects and the body can be perceived. For example, the movements'

execution must evoke the memory related to them, being the vision a fundamental element for the perception of external objects and the body itself. All tactile or visual sensations produce nerve currents that generate motion awareness.

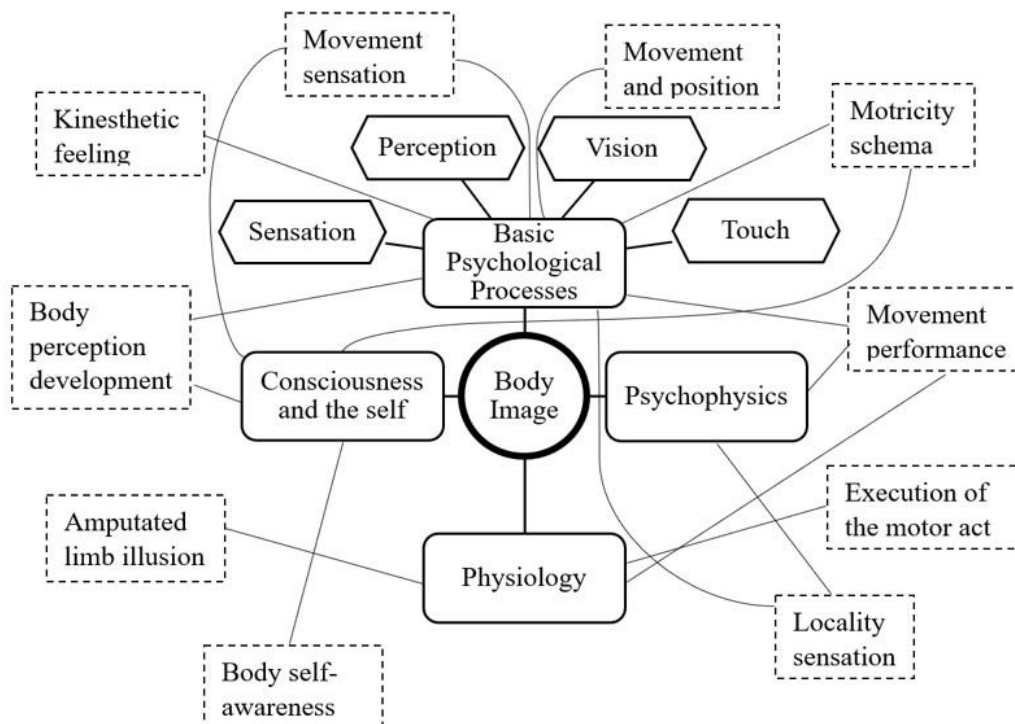
In the *Tratado de psicología* (1933), Waclaw Radecki presented similar ideas to what was already being discussed by other materials in the period, referring to the act's execution. For the author, sensations contribute to body perception and have an affective nature, determined by everyone's body sensation. According to Radecki, the human being can act like everything that he can represent in consciousness. Referring to William James in the *Principles of Psychology*, the author stated that only the contents of previous experiences could be discriminated and accessed, creating an individual image.

Except for the book by Rey (1934), in which the author used the term total body image, no other direct references to the expression body image were found. On the other hand, the authors De La Vaissière (1912), Dwelshauvers (1934) and Boring (1929) addressed themes that constitute the body schema described in 1911 by Head and Holmes. De La Vaissière (1912) referred to a form of body schema when he spoke about the amputees' illusion. This illusion would be an error of meaning in what was defined by the author as an “[...] imaginative schema [...]” (p. 113) or the body's imaginative schema, which is continuously updated through the sensations. In the chapter on sensitive knowledge, De La Vaissière spoke about a set of perceptions that allow the knowledge of the limb's movements, which he called the muscular sense. These perceptions can also be called synesthetic feelings and are related to individuals' ability to simultaneously notice what is happening in their body and around them. Referring to this notion in the works by Maine de Biran (1766-1824), the author cited the ability to distinguish between what is an individual (self) and what is not an individual (non-self). For Vaissière, these perceptions are explained through muscle movements since the healthy body knows when it is moving or not.

In *Traité de psychologie*, a book authored by Dwelshauvers (1934), the themes of sensitive syntheses from spatial syntheses are those that present contents such as motor image and motor schema. The author also discussed space perception according to naturalism and empiricism and presented research data on tactile sensations. Such senses would contribute to forming a motor image that allows the movements to be carried out. However, the idea of image would fit only the psychological study, as it only happens when it appears in consciousness and disappears immediately, being something unintelligible. The movement awareness created from the image is already the movement itself, making the driving image the common point between intentionality and realization.

In turn, the book *A history of experimental psychology*, published in 1929 by E. G. Boring, presents the notion of a sense of locality from the work of E. H. Weber (1795-1878) in the physiological psychology field. In this sense, touch would allow the discussion about a localization schema, as it would be through the skin and touch that the human being relates to the material world. The skin was also highlighted in the 1932 *Manuel de psychologie*, in which E. B. Titchener referred to kinesthesia as the sensations that encompass the senses and create a general body impression. This impression can be perceived in everyday life, as in writing, walking and movement, since it is the skin that surrounds the motor system and allows contact with the world. For Titchener, it is necessary to clarify the differentiation of the senses or kinesthetic sensations from the cutaneous ones. According to the author, this differentiation had already been pointed out by Aristotle. Still, studies in psychology were neglecting muscle sensations to the detriment of the five senses (smell, taste, touch, hearing and vision).

In general, the books' topics are linked to basic psychological processes, which align with the predominance of experimental psychology in the late 19th and early 20th centuries. Within this field of fundamental processes, it was observed that the elements of enunciation of themes associated with body image were mainly related to the body's sensations and perception. Unlike the notion of body image disseminated throughout the twentieth century, which implies an affective character, ideas about images were related to movement. Different perspectives in understanding the forms of perception of a body image were presented by Angell (1908) and Bomfim (1917) at the beginning of the first two decades of 1900. Figure 2 shows the conceptual map of the areas and terms related to the concept in the analyzed psychology books. At the first level is the concept of interest, 'body image'. In the second level (rectangles in complete lines) are the areas of the concept's enunciation, identified from the psychology field that the manuals presented the discussion. At the third level are the terms associated with the concept of interest (dashed rectangles).



**Figure 2**

Concepts mapping concerning the body image enunciation in books.

Source: The autor's.

## Final considerations

From this analysis of psychology articles and books, few direct references to the term body image were identified. Only two articles presented terms related to the concept. The first is the article by Prince (1923), with the term 'visual image of the body', and the second is the article by Schilder (1934), in which the author used the term body image, providing

more evidence that he already addressed the concept before 1935. No direct references to the notion of body image were found in the psychology books, only an indirect mention of the 'body image' in Rey's book (1934). The books observed that discussions about the body were found mainly in philosophy and basic psychological processes fields. The texts discussed self-notion development and the separation from the outside and objective world.

The conceptual grammar pointed to the use of enunciation themes close to the concept in the two types of sources consulted. The emphasis was on discussions and investigations about bodily representations in the mind and the motor schema study in psychology books. It is worth mentioning that the motor schema and movement perception themes refer to the notion of body schema developed by Head and Holmes in 1911. Possibly these ideas circulated in the literature of the period with different names and influenced the later composition of a general version of the body image concept. However, future investigations that broaden the sources' scope may improve understanding of the relationship between schema and body image.

The characteristics analysis of the two sources formats did not point to the confluence of the themes discussed, except for the kinesthesia theme, through discussions on synesthetic and movements sensations. The articles dealt, in general, with psychology experiments to investigate consciousness and perception or assessments of psychological themes. As they are material intended for teaching psychology, the books consisted of an introductory presentation and explanation of psychological theories and philosophical ideas.

Considering the development of psychology in the late 19th and early 20th centuries, it would have been pertinent also to access materials in the German language. The absence of sources in this language is one of the limitations of this study. It is suggested that further investigations can carry out a broader mapping considering other languages and new library collections. It is also recommended that the time be extended after Paul Schilder's book's publication in 1935. Investigations from subsequent years may provide more elements about the circulation and reception of the concept in psychology and its dissemination to other cultures. Based on the identification of terms associated with the concept of body image, further investigations can be carried out to integrate the conceptual maps proposed in this study. The study results contribute to the polysemy general view of the body image concept. It signals the term's historical association to ideas constitutive of movement perception and conscious self-identification of a self.

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Received: Apr. 04, 2019  
Approved: Feb. 15, 2021