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## GO TANI AND HIS INFLUENCE ON THE KINESIOLOGY FIELD IN THE BRAZILIAN SCIENTIFIC CONTEXT<sup>1</sup>

### GO TANI E SUA INFLUÊNCIA NO CAMPO DA CINESIOLOGIA NO CONTEXTO CIENTÍFICO BRASILEIRO

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#### ABSTRACT

This study aimed to group some perspectives on Go Tani's epistemological activity in the context of Brazilian Physical Education (PE), establishing his contributions and reflections on Kinesiology for the structuring of undergraduate and graduate Physical Education in Brazil. This is a bibliographical and exploratory study, which prioritized Tani's production on the most varied platforms and the materials that circulated about Kinesiology in national and international literature. Finally, through the theoretical review, it was possible to identify that the PE field is a scenario full of disputes and that even with the transformations of paradigms that infer the legitimate alternatives in the scientific context, the relationships that are established between the different schools of PE thought have erupted in a process of mutual incomprehension that contributes to the circularity of perspectives and the maintenance of beliefs in the field.

**Keywords:** Physical Education. Kinesiology. Epistemology. Go Tani.

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#### RESUMO

O presente estudo objetivou agrupar algumas perspectivas sobre a atividade epistemológica de Go Tani no contexto da Educação Física (EF) brasileira, estabelecendo suas contribuições e reflexões a partir da Cinesiologia para a estruturação da graduação e da pós-graduação em Educação Física no Brasil. Trata-se de um estudo bibliográfico e exploratório, o qual priorizou a produção de Tani nas mais variadas plataformas, bem como os materiais que circularam sobre a Cinesiologia na literatura nacional e internacional. Por fim, através da referida revisão teórica, foi possível identificar que o campo da EF é um cenário repleto de disputas e que mesmo com as transformações dos paradigmas que inferem nas alternativas legítimas no contexto científico, as relações que são estabelecidas entre as distintas escolas de pensamento da EF têm eclodido num processo de interincompreensão que contribui com a circularidade de perspectivas e a manutenção de crenças no campo.

**Palavras-chave:** Educação Física. Cinesiologia. Epistemologia. Go Tani.

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#### Introduction

The field of Physical Education (PE) as a legitimate area of knowledge has a history of debts and doubts in the work of intellectuals<sup>2</sup>. This article revisits and discusses some of the contributions of Go Tani, a researcher and intellectual who has sought to discuss the configuration of the area in recent decades, from a perspective that can be said to be sensitive to the internal demarcation of the epistemological and scientific status of the profession.

With a considerable number of publications related to the theme, addressing the problem of the academic-professional identity of PE, the author has gathered – among books<sup>3,4</sup>, chapters<sup>5-7</sup>, articles<sup>8-15</sup>, abstracts, and lectures – a solid intellectual production that not only questions the absence of a clear epistemological basis for PE, but also proposes, in a practical sense, referrals to the area in terms of research, graduate studies, and professional preparation. In the author's words: “the central objective of these works has been to contribute to deepen the reflections, discussions and propositions on the subject”<sup>15</sup>.

It is against this background that Tani also mobilized, at a certain point during his trajectory in the field, the contributions of Kinesiology as a proposal for the alignment and demarcation of the PE body of knowledge. In this context, through contact with different studies

from the field of North American PE, the researcher not only recovers perspectives based on Kinesiology for a possible reflection on the identity crisis of Brazilian PE, but also imposes advances on this framework in order to propose an epistemological basis that would satisfy PE's scope of action and, at the same time, favor systemic communication between basic and applied research and interventions in the area.

From the altercations experienced over the last decades in the field scenario in the United States and Brazil and the spectrum of problems arising therefrom, it is worth considering which theoretical accidents contributed to the learning of what PE really is, distinguishing it as an area of knowledge, autonomously produceable and applicable. Traversing the historical course of the Brazilian countryside, rescuing some elements of foreign connection, is an inexcusable task with enlightening repercussions.

In this wake, similar to what was seen in the USA, Brazil in the 1960s was also marked by a period of effervescence in the educational, political, economic, and social fields, etc. The emergence of a crisis in PE, however, took a few years in relation to the USA and dates back with greater ancestry to the 1980s, directly related to the final years of the period of military intervention, in which the formation of Postgraduate bodies in the area increased massively<sup>16</sup>.

In this way, the progression and obstacles to the general constitution of the field in Brazil, in addition to an apparently perennial state of crisis, have also been latently addressed in the course of their existence by several authors, concerned with the epistemological development. The works of these authors are of profound relevance insofar as they seek to overdetermine the construction of knowledge in the area and their mention is necessary to illustrate the current state of the discussion in Brazil.

Thus, having previously recognized the theoretical influence of Tani in the field of Brazilian PE, it is necessary to deepen these actions with the objective not only of identifying proximities and distances in relation to the academic-professional organization of PE in the United States from Kinesiology, but mainly of revisiting the contributions of their reflections to the configuration of the undergraduate and graduate PE structure in the country, encouraging the strengthening of the identity and autonomy of PE as an academically oriented area of professional intervention<sup>15</sup>.

### **Theoretical-methodological aspects**

In general, with regard to the theoretical-methodological aspects, qualitative approaches were adopted, through a documentary and exploratory research that aims to analyze the epistemological activity of Go Tani, evidencing his contribution to the configuration of the structure of undergraduate and graduate degrees in Physical Education in Brazil from Kinesiology.

In the first section of the text, a biographical description of Go Tani and his trajectory in the academic field is undertaken, summarizing the itinerary that established the epistemic investigation of PE as one of the author's main research agendas. This is followed by a discussion of Go Tani's scientific production, in an attempt to recall and problematize his reflections related to the topic of interest in this research, namely, the contributions of Go Tani and the kinesiological proposal in the epistemological context of PE in Brazil.

For the selection of the bibliographic material, studies of the academic production of Go Tani were chosen, adopting as inclusion criteria, materials published by Tani on different platforms, as well as other materials that circulated on Kinesiology, with emphasis on the epistemological debate within the main national periodicals. Materials that had some link to the theme in the titles, abstracts, and keywords were pre-selected and separated for complete analysis. At the time of collection, it was found that Tani had produced eighteen articles published in scientific journals, as well as two books and four book chapters dealing with the configuration of the field.

The analysis of the works and materials collected for this study was based on two axes: [1] the identity crisis and the search for a body of knowledge for PE; [2] the contribution of Kinesiology as a proposal for the field of PE knowledge in Brazil, with Go Tani as the main articulator.

First, who is Go Tani?

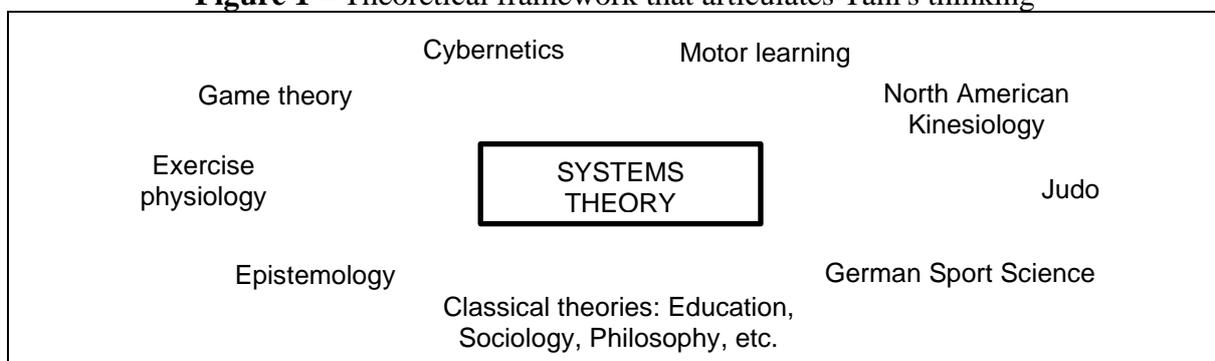
Go Tani was born on June 19, 1951, on the outskirts of the city of São Paulo. He is a *nissei*, that is, the second generation of Japanese immigrants in Brazil. The youngest of the eight children of Sobei Tani and Mineco Tani, Japanese immigrants and farmers, Tani always studied in public schools (including a rural school), and sport, especially judo, had a major influence on his education<sup>17</sup>. Financial and family influences and a taste for the sport attracted Tani to higher education in PE.

After completing his military period, he enrolled in the FE Licentiate course at the School of Physical Education and Sport of the University of São Paulo (EEFE-USP) in 1971. The path through higher education took place without major difficulties or great efforts, thanks to his motor experience in sports<sup>17</sup>. His dissatisfaction with the course content (mainly theoretical) encouraged him to continue his studies. A selection of Masters Scholarships in Japan led Tani to the completion of his Masters of Education (1978) and Doctor of Education (1982) from Hiroshima University, where he also carried out one of his Post-Doctoral studies in PE (1996).

It is also worth noting that Go Tani is a Post-Doctor in Psychology from the University of Sheffield (1995) and a Full Professor in PE from the University of São Paulo (1989). In addition, Tani has been an area representative at CAPES and CNPq and he is currently a Full Professor at the School of Physical Education and Sport at the University of São Paulo<sup>17</sup>.

In his academic-professional trajectory, Tani has worked on several projects and lines of research (currently he has 7 lines). He has been a member of the editorial board of several scientific journals (today he is a member of 9 journals), received more than a dozen awards and honors, published several articles in scientific journals, books, and book chapters, in addition to numerous abstracts, work presentations and lectures, orientations and evaluation boards<sup>18</sup>. He has extensive experience in the PE area, especially in the fields of investigation of Motor Learning, Physical Education at School, and the Epistemological Basis of Physical Education and Sport. Below we present a theoretical framework that synthesizes the main theoretical influences that Tani received and mobilized in his trajectory when progressively building his research program. For the elaboration of this framework, we base ourselves on his interviews, on the information declared in his curriculum in *Lattes*, and on an exegesis of his texts.

**Figure 1** – Theoretical framework that articulates Tani's thinking



**Source:** The Authors

As can be seen, at the heart of the author's enterprise is a systemic meta-theoretical approach, that is, which seeks to align complex and dynamic explanations in the field of science,

articulating the parts and the whole, as opposed to a mechanistic and reductive paradigm. Orbiting around this theoretical orientation that organizes his thinking, a series of knowledge and theories arises that reports on the experiences lived by the author in his relationship with other realities and areas of knowledge, as well as a practical reference manifest in the form of *habitus*, that is, of embedded social knowledge<sup>19</sup>, in the context of judo and, more broadly, in the sports field and in PE.

Having provided this brief review of some biographical and theoretical aspects imprinted on Tani's trajectory, in the following pages we offer an appreciation of the reflections accumulated by the author in the scope of the Epistemology of PE, in order to identify the influence of his ideas in the fields of research, post-graduation, and professional preparation in PE, as well as pointing out the researcher's understanding of the problem of the identity crisis that has affected the development of the area in Brazil as an academic-scientific field.

### **The identity crisis and the search for a body of knowledge for Physical Education in Brazil**

A reflective summary of Tani's work allows us to see that one of his main epistemological concerns with the field of PE is related to the absence of a clear identity that characterizes, strictly speaking, the breadth of the area, and this imprecision has significantly affected the way PE tends to be carried out and justified in different contexts, evidencing weaknesses in the scope of research, in the process of professional training, as well as in its performance within schools and in other spaces<sup>4,5,12,20</sup>.

The existing duality between the academic discipline and profession permeates PE. Seen as an academic discipline, PE has an essentially theoretical basis and is geared towards the development of knowledge. As a profession, PE has practical characteristics that contribute to society and its actors. Another duality lies in understanding the role of physical activity in PE: either as therapy/prophylaxis to improve physical fitness, or as an important element for education<sup>4,20</sup>.

Seen as an academic discipline, PE in Brazil is in crisis, presenting difficulties of consolidation even in spaces where it should not encounter much resistance, as in the case of the school environment. As an area of knowledge, it is, to some extent, astonished by the lack of clarity on the part of its own agents. As a professional preparation course, the training is, in general, indefinite and disorganized. As a profession, in short, PE is still marginalized in many realities, with its professionals only performing tasks<sup>4</sup>. For Tani, Brazilian PE professionals could be defined, currently, as mere performers and not as thinkers, that is, resembling laypeople, with little depth in their theoretical basis. According to the author, “what basically differentiates a professional from a layperson is the fact that the former masters the theoretical foundations on which his practical procedures are based”<sup>4</sup>. For the PE professional to adequately satisfy the identity in his area, he must demonstrate the domain of adherent theories on which his practice is based and that are constituted, therefore, by a body of theoretical knowledge intimately related to the practical doing. However, in order to search for this body of knowledge, it is first necessary to question: what is this knowledge? Where did it come from? Who produced it? How was it produced? What are its characteristics?<sup>4,20</sup>.

It is worth noting that the body of knowledge in the field of PE in Brazil still has a great influence of the scientific paradigm of analytical characteristic of the Natural Sciences. An example is the excessive simplification of the object of study, which fragments knowledge, consequently moving the field away from its quiddity. In the words of an old saying, “from analyzing the tree so much, the vision of the forest has been lost”<sup>4</sup>. In addition, the accumulation of disconnected, profuse data is evident, without the impediment of a theoretical structure through which hypotheses are extracted and better grounded until their possible refutation<sup>20</sup>. Furthermore, the integration between theory and practice has been largely lost, as in the aisles

in a supermarket, where there are various items, but one cannot visualize a unified theme capable of integrating them<sup>4,20</sup>. Thus, we understand superficial treatments of PE and human movement and not an integrated and comprehensive body of knowledge<sup>4,20</sup>.

Historically, PE has long borrowed from the application of knowledge produced by areas such as Psychology, Anthropology, Physiology, Sociology, etc. to explain and order its scientific activity in the academic field. However, due to their specific nature, these areas do not have sufficient conditions to encompass and supply all the needs of PE and the object that surrounds it. Furthermore, it would be rather naive on the part of those who study PE to believe that these areas could define the PE area, since they were not created for that purpose. That is, saying what PE is, is only up to PE<sup>2</sup>. Therefore, to structure a body of knowledge in PE and for PE, Tani<sup>4,20</sup> proposed that it is imperative for the area to delimit an object of study, a methodology, and a paradigm of its own. According to the author, the object of study of PE is human movement. However, PE in Brazil does not have a respective study methodology, as it depends on methodologies of traditional disciplines, as well as a characteristic paradigm with the production of knowledge in quantity, however disconnected and fragmented, in the absence of a defined structure that articulates, organizes, and distributes the knowledge.

In addition, it is essential to conjecture a profession whose exercise is academically oriented, in a structure capable of systematically organizing this body of knowledge around a common object, without which all kinds of epistemological confusion reigns (and still seems to reign). In this line of reasoning, Tani proposes a *framework*, based on studies by North American researchers, such as Henry<sup>21</sup>, Rarick<sup>22</sup>, and Brooks<sup>23</sup>, among others, who point to a systemic and interdisciplinary/transdisciplinary view, defining the relationship between PE and Kinesiology and establishing human movement as an object of interest in the area.

In other words, the area must be concerned with understanding how man moves, how he acquires skills, establishing the physical, psychological, and emotional effects of physical activity, as well as its historical and cultural aspects, etc.<sup>4,20</sup>. Therefore, Tani initially evaluates PE's relations to other areas in a complex condition of interdisciplinarity, considering the social, cultural, psychological, biological aspects, etc., however, without losing sight of the need to guarantee a disciplinary status by the institution itself; PE, allied to a clear vision of its central nucleus: human movement. This leads to the defense of Kinesiology as an area capable of articulating the production of scientific knowledge to inform PE interventions in different social domains.

In order to visualize the way in which these elements are articulated by Tani throughout his production, we can use the methodology of scientific research programs outlined by Lakatos<sup>24</sup>. In other words, Tani's efforts in the area can be qualified as a research program in which the author proposes to formulate and exemplify a structure of a body of knowledge that would allow PE to equate the variety of proposals made in the particularities of the field.

According to Lakatos<sup>24</sup>, research programs should be understood as a series of scientific theories that, in turn, will be summarized in a relational and articulated way. Under this approach, it can be said that a research program is progressive when new facts occur or regressive when working with facts that are already known and through the introduction of *ad hoc* facts<sup>24</sup>. In turn, the progress of science as a body of knowledge will take place through competition between progressive and regressive programs. Furthermore, each program must have a hard core, that is, its theory or conjunction of irrefutable/immutable hypotheses. The hard core of the program should be protected by sets of supported auxiliary hypotheses, called the protective belt. Positive and negative heuristics are related to the program's protective belt insofar as they indicate which paths may or may not be followed, thus affecting, modifying, sophisticating, or falsifying hypotheses and theories. The more autonomy the belt has to work with positive and negative heuristics, the greater its heuristic strength. In this way, the core<sup>25</sup> of PE must be constituted in the diversity of perspectives that open up from the notion of human

movement, without giving up the specificity of the area in the name of romanticism, unrealism,<sup>4,15</sup> and power disputes in the academic field<sup>2</sup>. An in-depth study of Tani's program for Brazilian PE is offered below, based on Kinesiology.

### **Kinesiology as a proposal for the field of knowledge of Physical Education in Brazil**

Tani, when assuming PE as an academic discipline and delimiting his body of knowledge, uses the North American definition of Henry<sup>21</sup>, as “[...] an area of knowledge related to the study of the nature and meaning of human movement in its various forms of manifestation and to the investigation not only of the how, but also the why of physical activity [...]”<sup>4</sup>.

In this sense, the author sees in the field of Kinesiology a viable proposal for the construction of a solid body of knowledge for the PE area in Brazil, evidently contextualizing the specificities of this dynamic in the national territory, starting with the advent of postgraduate courses in PE in the country, which dates back to the 1970s, as well as the formation of the first generation of doctors who carried out their *stricto sensu* studies abroad and, when returning to the country in the early 1980s, contributed to the development of PE in their respective universities. These events, to a significant extent, represented a paradigm shift in the structuring and organization of the Brazilian PE field, not only because they guaranteed the justification of PE in the university hierarchy, but also because they opened scientifically informed action fronts and designed the initial contours of PE as a field of investigation of its own, albeit little autonomous<sup>10</sup>.

The participation of USP in this dynamic is notorious. According to Tani<sup>25</sup>, advances in the field of training for the USP teaching *staff* were crucial for the “[...] implementation of a research base within the Institution”. In any case, it is not possible to say that the development of PE followed a homogeneous pattern throughout the country, given its continental size and, mainly, different conceptions/visions of what PE is, generating struggles within the academic field, including casting doubt on the structure of scientific organization, and offering alternative models, especially in the context of the Degree. Tani, attentive to these differentiated scientific development patterns, recognized that, despite *USP* being a reference in the adoption of an *ethos* for PE in the country, this structuring logic could not be extended more broadly to the area, given that, until today, there is no consolidated scientific basis that rigorously and convincingly justifies the specificity of the profession in the context of professional preparation<sup>10</sup>.

In addition, Tani<sup>25</sup> emphasizes that, despite the preponderance of an *ethos* in the organizational structure of PE at USP, the lack of clarity in the demarcation of academic and professional identity present in the history of the area would be a problem that transcends any isolated university institution and therefore a much more difficult and complex obstacle to resolve. According to the author, one of the factors that influenced this epistemological instability of PE is related to the deep immersion that the area has made in other fields of knowledge, often distancing itself from dealing with what is its own responsibility<sup>27</sup>. Hence the need arose to question whether the research developed in universities would have as a background a minimally unequivocal PE scientific identity or if, instead, it would favor its own conflicting construction<sup>11,25</sup>.

To produce answers to these impasses, Tani took the study of the PE disciplinary movement emerging from the American context in the 1960s very seriously<sup>21,22,27</sup>. For Tani<sup>25</sup>, this movement was guided by two perspectives: interdisciplinary and transdisciplinary. In the first variant, PE would still be subordinated to other areas, since it would correspond to the application of knowledge from disciplines such as Sociology, Physiology, Psychology, etc., in order to satisfy the specific problems of the field, in a logic that culminated in the development

of specialized research/operation sub-areas, such as Sport Psychology, Sport History, among others<sup>10,25</sup>.

Regarding the transdisciplinary perspective, PE would not be dependent on these disciplines, after all it would not only have its own identity but would also find its specific object of investigation in the figure of human movement. In addition, from horizontal and vertical studies, there would be gains in depth and PE, when using part of the knowledge of traditional disciplines, should integrate and expand them in the desideratum of deepening the view about its object of study<sup>25, 28</sup>.

Despite, however, the desire for the Disciplinary Movement to contribute to the structuring of a body of knowledge capable of consolidating a clear academic identity also for Brazilian PE, theoretically supporting professional preparation and intervention in the area, it is necessary to emphasize that the aforementioned movement, based on an inventive appropriation, seems to have resonated more decisively in the organization of PE at USP, largely due to the multiple understandings about the area in Brazil, resulting from the training of researchers in different theoretical traditions, with influences from other realities that are not necessarily North American.

In addition, it can be seen that the PE Disciplinary Movement course intensified the specialization of scientific research, resulting in the consolidation of a plurality of subareas, each with its own objects and objectives, driven by the pursuit of academic status, often neglecting the production of knowledge adhering to the identity of the area<sup>10,25</sup>. Antunes et al.<sup>29</sup> reported that one of the consequences of this movement was the predominance of research in the field of natural and exact sciences, consequently reflecting the weakening of the use of epistemology and methodology of the human sciences, especially those of a pedagogical nature. This, in turn, refers to a logic of knowledge fragmentation that is reflected in the PE area, with increasingly specialized problems/solutions without articulation between the subareas<sup>2,25</sup>.

Furthermore, the restructuring of professional training courses through the implementation of bachelor's degrees in PE caused instability in institutions, meeting resistance from groups that wanted to maintain the *status quo* and preserve stability<sup>4,10</sup>. However, despite the resistance, the division between the Bachelor's and the Licentiate degree further expanded the fragmentation scenario of PE, culminating in a framework of ultra-specialization within the academic-scientific field. Another relevant event was the development of numerous pedagogical approaches for school PE from the 1980s onwards. This diversity, according to Tani<sup>4</sup>, is configured as a requirement for qualification in the area, subsidizing the construction of a curricular proposal capable of meeting real demands. In any case, as suggested by Souza<sup>2</sup>, the existence of multiple approaches, without demarcating a minimum consensus for what we do and are, ended up reinforcing even more the fragmentations and disputes in the PE field, as researchers and study groups began to defend regional theories as if they were general PE theories, as if only their *constructs* were true or critical and all others were mere ideological remnants.

By epistemologically evaluating this scenario from a *Kuhnian* perspective, it can be said that this historical period of a little more than four decades from the 1980s has been marked by the presence of several anomalies in the field of Brazilian PE<sup>30</sup>, causing divergences between the guardians of the truth and supporters of change. It is noticed that, until the present moment, PE continues to face the anomalies that ended up intensifying the crisis phase, imposing barriers that prevented/prevent scientific revolutions of a more global order in the area as an autonomous field of knowledge, which was reflected in conceptions which distanced themselves from the interventionist reality of the profession. Thus, in several sectors of Brazilian PE, science was treated as the “villain” of history.

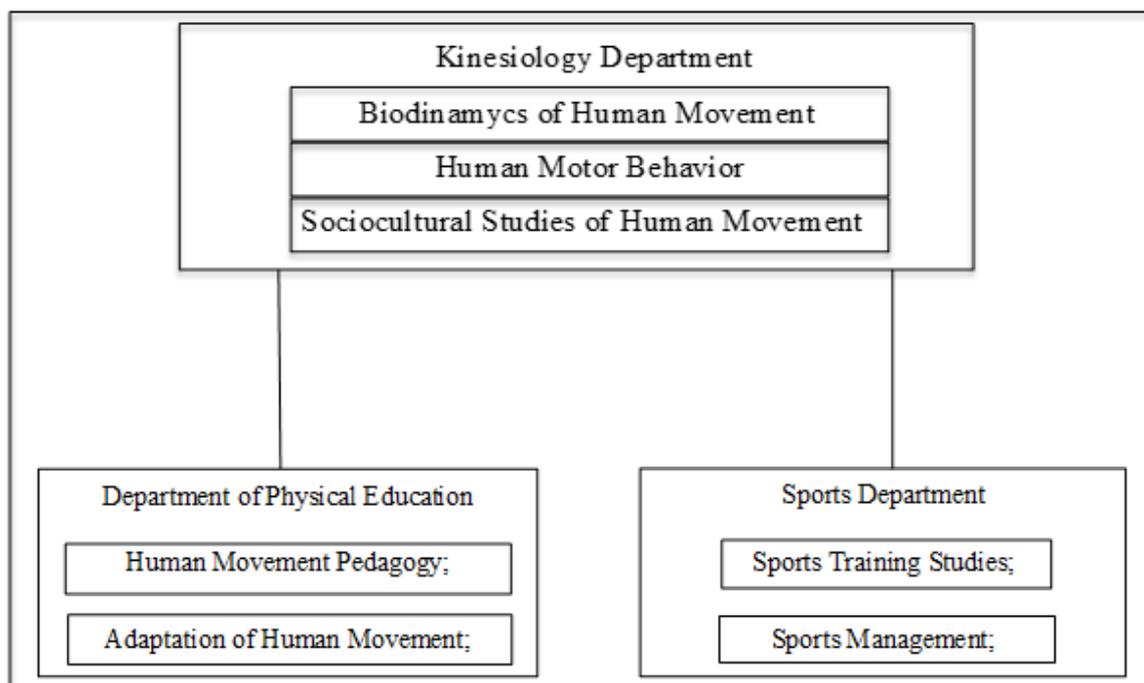
Reinforcing this perspective, Bracht<sup>31</sup> states that the search for scientific advancement in PE resulted in the process of “de-pedagogization”, putting into question the scientific

contributions to school PE. However, Tani<sup>3</sup> reports that this decontextualization of science in time and space reinforces the need for more accurate epistemological studies. Therefore, despite the potential of Kinesiology as a research program capable of provoking a structural reorganization in the Brazilian PE crisis paradigm, circles of specialists in the area criticized it, claiming that it did not encompass the dimension of pedagogical practice and social interventionism<sup>32, 33,34</sup>, although this condition was never rejected by Tani as the articulator of the proposal. In such a way, if the criticism of the author for his propositions for school PE<sup>1</sup> is visibly manifested by a large number of citations – underlining the existing antagonisms in this regionality of the PE field, with the demonstration of political and epistemological positions already well demarcated – on the other hand, there are few assessments of Go Tani's contributions that also deal with the macrostructural plan of the area<sup>4,6,7,10,11,12,13</sup>.

Despite the diversity of theoretical propositions in the area, with minimal consensus on what we really are, little more than 4 decades have passed since the so-called PE renewal movement, and there is no coherent synthesis in the field, however well-accepted, capable of placing our area specificity under a firm aegis. Furthermore, the suspicion of science in favor of the political reflects a certain theoretical dogmatism, alien to the changes generated by the social dynamism itself, signaling the existence of groups that seek to 'eternize' time and find another order of relationships in the field. Indeed, it is inferred that although absent, it still manifests a solid body of knowledge, capable of academically and scientifically supporting the practice of PE, not infrequently leading to problems in the formation of a confused professional identity that interferes with the autonomy and recognition of the area<sup>2</sup>. Bourdieu<sup>35-36</sup> recalls that the demarcation criteria that constitute the theoretical-methodological frameworks influence the autonomy of the field, reflecting on scientific development.

In the scope of PE, Tani<sup>4</sup> states that this is configured as “[...] the product of an epistemological and methodological problem of excessive simplification of the object of study in research”. Faced with these tensions in the academic field and with the aim of promoting an epistemological advance, Tani presents and defends the structure of Kinesiology as a means of overcoming the identity crisis, instituting it as a structure that encompasses PE, with a specialized methodology and its own paradigms, in addition to articulating human movement as an object most corresponding to the area.

In this vein, Tani systematizes the structure of a Faculty of Kinesiology, Physical Education and Sport (Figure 02), pointing out three general areas of Kinesiology: biodynamics, motor behavior, and sociocultural studies of human movement. These subareas, therefore, would subsidize PE as an area of knowledge, in addition to two disciplines: “pedagogy” and “adaptation of human movement”. Furthermore, the “mother area” would also be the basis for the sports department, along with training and sports administration. In this relational movement, space would be guaranteed for both basic and applied research, promoting an approximation of PE theory and practice, with scientific knowledge as a backbone<sup>4</sup>.



**Figure 2** - Administrative structure of the Faculty of Kinesiology, Physical Education and Sport

Source: Adapted from Tani<sup>4</sup>

According to Tani<sup>4</sup>, an essential feature of this proposal is the clear differentiation between areas (and subareas). The first area would focus on academic aspects of human movement (description, understanding, explanation), while the second would focus on the professionalizing and applied aspects of this phenomenon (Physical Education and Sport). For the author, the intention would be to rationally organize progress, “each within its own specificity, that is, with duly characterized and identified research”<sup>10</sup>.

Although the practical reflexes of the Kinesiology concept are not homogeneous and Brazilian PE does not correspond to this premise, it can be seen that some institutions adhered to it – perhaps as a possible political effect of Tani's insertion in the spaces. In this context, it is clear that even the organization of Area 21 of the Coordination for the Improvement of Higher Education Personnel - CAPES and, as already mentioned, the organization of the Departments of the School of Physical Education and Sport of the University of São Paulo (EEFE/USP), considered one of the main PE institutions in the country (Department of Sports, Department of Biodynamics of the Human Body Movement and Department of Pedagogy of the Human Body Movement), mirror this academic understanding based on Kinesiology.

In summary, Tani<sup>4</sup>, when dealing with the professional identity crisis that persists in PE, reports that the absence of a minimum consensus on what is configured as an object of the area reflects the low level of consistency with reality<sup>37</sup>. In other words, there is a gap between the PE that is thought and researched on the one hand, and that which, on the other, is carried out in different intervention domains<sup>2</sup>. Therefore, “the absence of this definition can encourage researchers to “shoot in all directions” and their efforts become diluted, without resulting in articulated knowledge around objects, themes, and specific problems in the area”<sup>4</sup>. Furthermore, the lack of this discernment also inflects the inhibition of epistemological discussion in PE<sup>4</sup>.

In this perspective, Popper<sup>38</sup> criticizes the knowledge produced accidentally, asking what the contribution of this form of production would be. From the *Popperian* viewpoint, practically

none. Therefore, it is important that knowledge be systematized in PE so that anomalies are overcome and, perhaps, scientific revolutions can thrive<sup>30</sup>.

## Final considerations

As observed in the present study, Tani is one of the great names in the Brazilian PE field. His understanding of the problems faced by PE, as well as his efforts to defend the constitution of an autonomy for it at the rear of science, brings us numerous contributions to think about the development and scientific advancement in the area. For the author, PE is a set of scientifically oriented practices whose “mother area” is Kinesiology. Furthermore, it is worth noting that the area has its own object of study (human movement) and its contributions to science can be in the spheres of both basic and applied science.

Additionally, Tani's incursions reveal that PE is still searching for its epistemological identity to establish a greater degree of autonomy and, in this way, guide pedagogical work with more assertiveness. According to Tani<sup>3</sup> “[...] it is the identity that makes possible the interaction between the areas [...] otherwise, science would probably be one”. Thus, claiming an object for an area is equivalent to defending its autonomy and support both in the academic-scientific scope and in the domain of intervention. But not only that, since, after all, demarcating the specificity of PE and justifying the reason for its existence means contributing to the recognition of the different professionals who make the area happen.

In this way, the author sought to activate Kinesiology as it was taking shape in the United States from a systemic approach. Thus, through Kinesiology, Tani<sup>15</sup> defended human movement as an indelible object of PE, considering the interaction of people with the environment and vice versa, without distancing itself from the global view of the individual, pondering the interrelationships between the social, cultural, biological, and psychological dimensions.

However, despite Tani's contributions to the PE field in Brazil, as we seek to summarize in this article, the fact is that many of his propositions encountered resistance from his peers, especially because he sought to move in a different direction to that advocated by the renewing movement of Brazilian PE in the 1990s. In summary, it can be said that in a context marked by intense debate about social structure, politics, and culture, it becomes much more difficult for less autonomous scientific fields to develop greater autonomy. As Tani's perspective was more sensitive to a criterion of internal demarcation of the PE epistemological problem, his approach was associated with the context of order and not of conflict, which in part helps to explain the low receptivity that his proposal found among those circles that were playing the cards for PE, especially in schools, in the context in question.

This sketched scenario, therefore, reiterates how much the scientific fields are marked by disputes. According to Bourdieu<sup>35-36</sup>, scientific life is similar to a game, with its own rules and strategies. The scientific field is provided with forces that systematize its structure, constituting itself as a space of conflicts, where there are divergences in the distribution of resources (scientific capital). Each agent carries a *habitus*, with calculated intentions, scientific practice, theories, and methods of its own. It is worth remembering that if, on the one hand, the scientific community for Kuhn<sup>30</sup> is unified and homogeneous, with common goals, on the other hand, the scientific field for Bourdieu<sup>36</sup> is a space of competition, with different goals, a stage of tensions and pressures. However, in fragile scientific fields, political capital tends to overlap with scientific capital<sup>37</sup>, a condition that may shed light on the relative invisibility of some of Tani's propositions in the field of PE in Brazil and of a series of other authors<sup>39</sup>.

In this sense, it is stated that if epistemological thematization, on the one hand, can be considered a distinctive feature of areas that seek even greater demarcation of their scope and limits, on the other hand, it presents itself as an indelible quality of constant social hermeneutics, capable of reducing the existing gap, in our case, between *homo academicus* and *homo movens*<sup>2</sup>. Under the lens of an academic scenario in different rhythms of change, the systematic reflection of the scientific status of the field takes on considerable importance in contemporary dynamics, in which the demands of an increasingly accentuated social reflexivity constantly knock on the door and impose new challenges on us.

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