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The Laboratory of experimental psychology: Establishing a psychological community at a Brazilian university

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Abstract

This paper aims to introduce the laboratory of experimental psychology as a *truth-spot*, as well as to investigate the social networks formed at the laboratory, in the initial implementation of the psychology degree at the Universidade Federal de Minas Gerais (UFMG). We interviewed five professors from UFMG in consideration of two principles: a) that a laboratory is a generator of facts/truths and b) that a laboratory is a support structure for the formation of academic communities. These interviews revealed the social supports provided by the laboratory for the psychology degree at UFMG. We interpreted the interviews by means of historical information from the national context at the time, relating both to the establishment of the psychology degree and to discussions on higher education. We found that the laboratory of experimental psychology played an important role in the formation of the university's psychology department, in the establishment of a degree in that discipline, and in raising the status of psychology as a profession.
Keywords: history of psychology, laboratory of experimental psychology, psychology degree at UFMG.

El laboratorio de psicología experimental: la constitución de una comunidad psicológica en una universidad brasileña

Resumen

En este trabajo se aborda el laboratorio de psicología experimental como un 'escenario de la verdad'. Se muestra la formación de redes sociales en el laboratorio durante la fase inicial de implementación de la carrera de psicología en la Universidade Federal de Minas Gerais (UFMG). Considerando el laboratorio como un lugar de producción de los hechos/verdades y al mismo tiempo como un soporte para la formación de comunidades académicas, se realizaron entrevistas a cinco profesores de la UFMG. Las entrevistas fueron interpretadas teniendo en cuenta los datos históricos en relación con el establecimiento de la carrera de psicología y los debates sobre la educación superior en el contexto nacional de la época. Se encontró que el establecimiento del laboratorio de psicología experimental ha desempeñado un papel importante en la formación del departamento de psicología en esta Universidad. Además, el laboratorio contribuyó al estatus académico de la psicología y a la consolidación de la misma como profesión.
Palabras clave: historia de la psicología; laboratorio de psicología experimental; carrera de psicología en la UFMG.

Development in scientific theory depends on the relationships established by both human and non-human agents. Some of the characteristics of this development include the institution where the theory was developed, the reception of the theory within the institutional milieu, and the political contacts and agencies that supported the theory. We can also identify the instruments used to build up the theory and analyze the coalition of people who promoted the theory. For certain authors we may analyze the laboratory of psychology and its apparatus to understand some paths of psychology (i.e., Sturm & Ash, 2005). Thus, we may analyze the influence of the experimental psychology laboratory to the development of experimental psychology theories. We may also observe the influence of the laboratory in establishing a scientific community. Several works have pointed out the experimental psychology laboratory as a locus for the history of psychology in different countries (i.e., Capshew, 1992; Coon, 1993;

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Danziger, 1979; Miranda & Cirino, 2010). In psychology, the influence of the laboratory arises mainly from the functions it performed in establishing psychological studies as an institution. Such functions include the materialization of both the scientific and professional status of psychology, the performance of didactic practices, and attention to a wide contingent of students. The laboratory has been able to centralize subjects, practice, and discourse around scientific instruments while fulfilling these functions.

A part of scientists' investment in constructing scientific facts involves generalizing their discoveries. In this process, the scientific fact becomes a "truth" that transcends its local production. According to Gieryn (2002), however, this process of purifying scientific facts turns the laboratory into a truth-spot. Gieryn (2002) conceptualizes the *truth-spot* as a material and geographically delimited place in which facts/truths are produced by means of purification from their parochial social and historical attributes. Taking this perspective of the laboratory as a starting point, one can observe the role of the laboratory in providing supports for professionals and scientists, as well as the laboratory's importance in helping researchers to set up social networks.

Our goal with this paper is to present the laboratory of experimental psychology as a truth-spot. We take as a background the initial implementation of the psychology degree at the Universidade Federal de Minas Gerais (UFMG). We show that, in fulfilling the role of truth-spot, the laboratory provided a set of supports for professors of psychology at UFMG in the 1960s. The following two aspects will be discussed in order to reach the proposed goal: (1) higher education in the Brazilian context and with regard to the degree in psychology, and (2) the role of the experimental psychology laboratory in establishing the psychology degree at UFMG. Hence, some aspects of the initial configuration of the psychology degree at UFMG will be presented.

Part of our sources consisted of interviews with five professors of the Department of Psychology at UFMG who worked at the university during the 1960s. We considered these interviews a "provoked archive" - that is, a source from which we had to draw out and interpret information. Therefore, the interviews are not regarded as a neutral witness because they are subject to interpretation, as are the other sources used in this article. The interviewees were Adélia Maria Santos Teixeira, Ione Scarpelli Pereira, João Bosco Jardim, Maria José Esteves de Vascon-cellos, and Sônia dos Santos Castanheira. Excluding Ione Scarpelli Pereira, the interviewees were students in the first class of psychology at UFMG in 1963. After they had earned their degrees in psychology in 1968, they started to teach in the Department of Psychology at UFMG. The interviews with everyone except Professor Pereira provided us with two perspectives: first, their viewpoints as students of psychology between 1963 and 1968, and, second, their perspectives as teachers in the experimental psychology laboratory after 1968. Ione Scarpelli Pereira was a professor of this first class—that is, she was a professor of the other four interviewees. She has been engaged with the experimental psychology laboratory since 1963.

Higher Education: Development of Brazilian Researchers

The triad of industrialization, scientific development, and educational renewal fostered the republican discourse concerning Brazil's progress in the initial decades of the twentieth century. In this period, several social, political, and economic changes were initiated in the country, speeding up population growth in the cities. As a direct consequence of these developments, national education assumed a leading role, being regarded as one of the major elements for the country's progress. In this process, scientists became the spokespersons of modernization, those in charge of social organization. From an educational viewpoint, Brazil's conception of social progress was tied especially to the modernization of educational methods and to strengthening scientific discourse.

Between the 1930s and 1960s, the Brazilian modernization project was undertaken in industrialization, scientific development, and educational renewal (Mendonça et al., 2006). At that time, the modernity that had been desired since the beginning of the 1900s was established in Brazil. This modernity was evidenced in the amplification of the industrial park, the advent of new technologies, and the creation of Brasília (the new capital). The discourse of modernization for promoting national progress was intensified in Brazilian universities, and the technical aspects of education were strengthened, as was governmental investment in higher education. These efforts linked the university to the development of research and to the production of science. Governmental policies on higher education at this period were influenced by the American university model (Cunha, 1982/2007; 2000/2010). Development of both teaching methods and research became a trend in the discourse of the Brazilian university.

[1] The interviews were held in 2009 and their files are with the authors. The interviewees granted the possibility of being identified, as attested in the Form of Informed Consent approved by the COEP/UFMG (ETIC 590/08).

In line with the ideals of modernization, the need for encouraging the development of Brazilian researchers gained momentum in educational policy. Some of Brazil's major scientific agencies were started in the 1940s and 1950s: the Fundação de Amparo à Pesquisa do Estado de São Paulo [São Paulo Research Foundation] (FAPESP) in 1947; the Sociedade Brasileira para o Progresso da Ciência [Brazilian Society for the Progress of Science](SBPC) in 1948; and in 1951, the Conselho Nacional de Desenvolvimento Científico e Tecnológico [National Council for Scientific and Technological Development] (CNPq) and the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior [Brazilian Federal Agency for Support and Evaluation of Graduate Education] (CAPES). Gastão Rosenfeld (1963), one of the founders of the SBPC, said of this movement, "It is necessary to truly stimulate the collaborative spirit in order to increase the number of scientists and to improve their levels … only thus the culture will be strengthened—by having the number of its supporters increased" (p. 82). Similarly, Warnick Kerr, director of the FAPESP between 1962 and 1964, indicated that "[the] lack of qualified personnel for research constitutes the major deficiency for the rapid progress of science in the State of São Paulo" (Kerr, 1965, p. 72). Thus, the creation of a "national science" was prominent in the academic environment, whose objective was to act in the Brazilian social context. Once graduate courses had been strongly developed by the end of the 1960s, students were expected to learn basic research skills, even in their undergraduate studies. Therefore, Brazilian researchers' development increased in universities in the context of undergraduate studies.

The Brazilian government implemented a wide University Reform in the 1960s with the intent of strengthening science (Cunha, 1982/2007; 2000/2010; Mendonça et al., 2006). The creation of the Universidade de Brasília (UnB) was an important event in this reform because the university was an embodiment of the ideals of modernization found within higher education. This university "... represented the radical change in the organization of material and human resources of the university" (Cunha, 1982/2007, p. 18). Important agents in Brazilian education were involved in the organization of UnB, such as Anísio Teixeira[2] and Darcy Ribeiro[3]. In addition, the creation of UnB and the University Reform occurred when the government was led by the Brazilian Army Force. This period is called the Military Regime[4], and it was a time of intense political conflicts. These conflicts influenced the universities in Brazil, and UnB was no exception because it was located in the capital where the impact of the Military Regime was strong (Cunha, 1982/2007). Because of the influence of the Military Regime, the development of UnB did not occur as planned. However, its model influenced higher education legislation and the development of other Brazilian universities. According to Cunha (1982/2007), the UFMG became the main model in terms of the modernization of higher education after the failure of UnB. Cunha believes that UFMG implemented the structure intended by UnB without using it as a model. Therefore, UFMG did not suffer the successive academic and political crises that occurred in UnB. UFMG's example also allowed other Brazilian universities to look for resources to fix academic problems raised by the University Reform without reference to the UnB experience. Hence, UFMG appeared as a prominent university in the context of the University Reform in Brazil in the 1960s.

Psychology at UFMG: the Laboratory and the Undergraduate Course

Another figure that helps us understand the institutionalization of experimental psychology as a formal discipline at the UFMG is Helena Antipoff. Her professional work in Brazil has been linked to various institutions, among them two laboratories of experimental psychology. The first, the Laboratório de Psicologia da Escola de Aperfeiçoamento de Professores de Belo Horizonte [Psychology Laboratory of the Teachers' Training School], was active between 1929 and 1946. This laboratory became one of the major reference points in Brazilian educational psychology (Campos, 2008). The second, the Laboratório Edouard Claparède [Edouard Claparède Laboratory], was founded in 1955 in the city of Ibirité, Minas Gerais. Both labs had strong intellectual ties to the Institut Jean-Jacques Rousseau in Switzerland.

One of the products of these exchanges was an experimental psychology course taught by André Louis Rey in 1956. Ione Scarpelli Pereira (personal interview, February 11, 2009) gave her impressions of the course:

> ... The course covered the theoretical and practical applications of the psychology of learning and experimental psychology. The content was explored from the theoretical point of view and

[2] Anísio Espínola Teixeira (1900-1971) obtained his undergraduate degree in Law and Social Sciences in 1922. In 1928, he obtained his Master of Arts degree at the Teacher's College of Columbia University.

[3] Darcy Ribeiro (1922-1997) was an anthropologist. He was involved with education in Brazil and played an important role in the development of many Brazilian education agencies, as the Centro Brasileiro de Pesquisas Educacionais [Brazilian Centre for Educational Researches] (CBPE).

[4] For twenty years (1964-1984), Brazil was governed by the Brazilian Army Forces, which established a dictatorial government.

> its topics were transformed into questions that resulted in small demonstration experiments. The instrumentation required was constructed by the teacher and students. We did not have sophisticated means; it was necessary to use creativity to measure, for example, the salivation of a dog subjected to respondent conditioning practices. Some students from this course were invited to teach in the psychology course to be created [at UFMG] in the next decade, [and they] took these ideas from the assembly of the experimental psychology laboratory.

This course directly affected the psychology program in Minas Gerais. Broadly, this course "... contributed to the formation of the first generation of professional psychologists legally recognized from 1962 in Brazil" (Campos & Lourenço, 2001, p. 322). In a particular way, it influenced the configuration of the psychology degree at UFMG. Before this time, it could be said that the laboratory had brought together people interested in psychology. In this case, a "… first generation of professional psychologists ..." (Campos & Lourenço, 2001, p. 322) found support inside the laboratory in terms of establishing relationships and enhancing the practice of their profession. These professional connections culminated in the implementation of a laboratory of experimental psychology for the undergraduate degree in psychology at UFMG. This development was a result of the fact that some of the people who took Rey's course assisted in configuring the UFMG psychology degree. Bessa and Rey were part of the group that designed socio-institutional supports for establishing a group of professors interested in teaching psychology via laboratory work in experimental psychology.

We can also observe another point that contributed to the creation of an experimental psychology laboratory during the establishment of a psychology degree at UFMG. Helena Antipoff had taught educational psychology at UFMG, having had Pedro Parafita de Bessa as one of her assistants since the 1940s. She was a professor of educational psychology at UFMG even before the psychology degree was created at that university. From the late 1920s, Antipoff was recognized as an important psychologist by her colleagues. For example, *The Psychological Register*, a book published in 1929, listed many people important to the development of psychology in different countries, one of whom was Helena Antipoff. Her curriculum vitae shows 12 papers that she published about techniques in experimental research. After the 1930s, she showed that the laboratory was a tool for the teaching of psychology, identifying theory as "just a necessary introduction for practical work and for research ..." (Antipoff, 1992/1930, p. 227). Because of her practical experience in running an experimental laboratory, she had strong ties to this locus. Hence, André Rey´s course, combined with Antipoff's experiences with the experimental laboratory, suggest that certain elements of experimental psychology were already present at UFMG even before the psychology degree was established.

UFMG's psychology degree was created between 1962 and 1963. Its creation was guided by the contents of the Conselho Federal de Educação [Federal Council of Education] (CFE) Legal Opinion No 403[5]. This Legal Opinion highlighted concern about the scientific training of psychologists, noting that "it is imperative to emphasize the scientific nature of the studies to be conducted ..." (Ministry of Education, 1962). In this Legal Opinion, experimental psychology was particularly cited as an important field for the professional training of students: "[T]he skills and competencies without which, in our view, 'a proper professional training would be jeopardized' … are General and Experimental Psychology …, as the analysis of the fundamental process of behavior (cognition, motivation, and learning), which will support student training in the experimentation field" (Ministry of Education, 1962).

These excerpts demonstrate that experimental psychology was considered part of the essential content for a psychologist's training. Experimental psychology can also be associated with the scientific nature of psychology. The authors of the Legal Opinion mentioned above noted that the document was the result of a series of discussions held with a group of psychology professors, among them Pedro Parafita de Bessa, who was one of the founders of the psychology degree at UFMG.

I. S. Pereira (personal interview, February 11, 2009) described some of the impacts of Legal Opinion No. 403 at UFMG:

> The workload for General and Experimental Psychology was very large. However, its importance did not [results in a] failure to emphasize research in other areas of psychology... In all of the other disciplines there was a clear concern for obtaining empirical data, goals, etc. ... There was no very clear separation [between the psychological areas]. I mean, there was a separation of the disciplines [and its topics], but the staff worked more or less in the same way. So what did the think when they were building up this laboratory? One laboratory that allowed people to work in any field of psychology? I mean, in General and Experimental Psychology that was everything!

[5] Available at <http://www.abepsi.org.br/web/linha_do_tempo/memoria/docs/fr_1962_3.htm>. Accessed June 7, 2011.

According to Pereira, the demanding workload in experimental psychology was a major result of the CFE Legal Opinion at the time the psychology degree was implemented at UFMG. In her interpretation, experimental psychology was one of the focuses in the psychology degree. She highlighted concerns about experimental science because of certain assumptions, with a focus on data and objectivity. The laboratory emerged as a possible response to these concerns and to the rigorous workload in experimental psychology. The group of professors who created the psychology degree at UFMG found support for their interests in "... obtaining objective and empirical data" through the laboratory of experimental psychology, which enabled the use of instruments and had its own space.

On the establishment of the psychology degree at UFMG, I. S. Pereira (personal interview, February 11, 2009) stated that "... one of the first concerns was the establishment of a psychology laboratory. The laboratory was designed to be used by different disciplines of the course ...." At this point, the influence of the laboratory in experimental psychology could be noted among the academics who were conceiving and organizing the psychology degree at UFMG. Thus, the laboratory became a centralizing structure for subjects, practice, and discourse. Pereira also pointed out the importance of the laboratory for the training of psychologists. To her, the laboratory was important in programs of psychological disciplines and an educational instrument. Pereira conceptualized a form of psychological science wherein the focus was the laboratory and experimentation, not one specific psychological theory. The laboratory also fostered the demarcation of symbolic spaces in the structure of the newly institutionalized psychology course. In other words, even as it fulfilled its role as a *truth-spot* for professors involved in establishing the psychology degree at UFMG, the laboratory provided them with symbolic and material supports, such as scientific models linked to the production of objective data and institutional space. These supports worked to enhance pedagogical relations. Hence, the laboratory of experimental psychology also became a pedagogical instrument in the various disciplines of the psychology degree.

Groups of professors and students formed themselves according to how they used the experimental psychology laboratory at UFMG. During the interviews, some of our interviewees highlighted one group that was organized and conducted by Professor Galeno Procópio Alvarenga. João Bosco Jardim (personal interview, February 10, 2009) explained, "... Professor Bessa gave part of the course on General and Experimental Psychology to a psychiatrist, Galeno Procópio Alvarenga ...; [the course] was divided into units." Maria José Esteves de Vasconcellos (personal interview, March 5, 2009) corroborated J. B. Jardim's observations. According to M. J. E. Vasconcellos, "... experimental psychology was heavily emphasized in the course with Professor Galeno ...." Both J. B. Jardim and M. J. E. Vasconcellos reported on the use of the laboratory in experimental psychology. M. J. E. Vasconcellos said, "... as a student I remember a few things about psychophysics, [such as] ... reaction time; he produced a sound, measured .... Maybe some memory experiments made with material we built. But it was all that way - we built them ourselves."

J. B. Jardim (personal interview, February 10, 2009), in his turn, noted, "Very often we built our own devices [;] the experiments they required from us were called demonstration experiments ...." Adélia Maria Santos Teixeira (personal interview, March 13, 2009) asking herself about experimental psychology added,

> We conducted our experiments by creating our own equipment, based on Paul Fraisse's[6] book. Some pieces of equipment were made of cardboard, wood, cards ..., and we conducted experiments on memory, emotional response, learning, and reaction time .... We had a place to do these experiments .... [We] were replicating classical experiments.

Finally, Sônia dos Santos Castanheira (personal interview, February 5, 2009) said,

> How did we perform our laboratory practices? There was a large room down the hall on the second floor, for lectures, etc., that we called the Experimental Psychology Laboratory, in which we carried out demonstrations of experiments... They were demonstration classes, with replication of experiments from *Great Experiments in Psychology* by Paul Fraisse and from the two volumes of *Elements of Psychology* by [David] Krech and [Richard] Crutchfield.

All these reports indicate that the students themselves built the equipment to be used in classes. On the use of this laboratory, S. S. Castanheira (personal interview, February 5, 2009) was incisive, maintaining that the practices were carried out under teaching conditions, in experimental demonstration classes. Interpreting this set of reports, we can observe that the laboratory of experimental psychology was being shaped as a pedagogical tool. It gathered a group of professors and students around instruments, practices, and scientific facts. In performing this coalition function, the labora-

[6] The interviewee is mentioning Paul Fraisse (1911-1996), a French psychologist who ran experiments in perception of time.

tory provided them with support. Students were able to carry out demonstrations with the instruments they had built as opposed to merely reading about experimental psychology. In sum, the construction of these instruments and the implementation of demonstrations enabled psychology teaching and collaborated in the formation of a community.

According to I. S. Pereira (personal interview, February 11, 2009), Galeno invited five students to work with him, thus forming a study group. M. J. E. Vasconcellos (personal interview, March 5, 2009) indicated that this study group, meeting in 1963 and 1964, was guided by the field theory of Kurt Lewin. S. S. Castanheira (personal interview, February 5, 2009) called it the "group of five." However, S. S. Castanheira reported that this group was responsible for assisting Galeno in experimental psychology classes, in addition to studying Lewin's theory. In the words of the interviewee, "[Galeno] got us to help in the experimental [psychology] classes ..." (personal interview, February 5, 2009). I. S. Pereira provided information similar to S. S. Castanheira's regarding the establishment of a group of assistants: "Professor Galeno invited a group to teach this discipline [experimental psychology], giving them autonomy to draw up the demonstration experiments ..." (personal interview, February 11, 2009). Thus, the members of the "group of five" seem to have received their initial theoretical training between 1963 and 1964, in studying Kurt Lewin's field theory. Later, they helped Galeno in the various disciplines of experimental psychology, in this way becoming trained as professors of experimental psychology. This training involved a didactic laboratory for the practice of their profession. Thus, the laboratory of experimental psychology not only brought together individuals, practice, and discourse, but also provided support for constituting a group of students interested in teaching and in experimental psychology. This group was formed in the laboratory of experimental psychology where they "[prepared] demonstration experiments ...."

A letter[7] from the deputy head of the psychology department, addressed to the director of the School of Philosophy, requested permission to hire eight new people in the Department of General and Experimental Psychology. M. J. E. Vasconcellos (personal interview, March 5, 2009) said that these were positions for teaching assistants, who had the responsibility of assisting full professors. This demand for teaching assistants arose between 1968 and 1969 at UFMG. Of the eight approved in this contest, the entire "group of five" was approved. This group received training as professors of experimental psychology that used the laboratory as a teaching tool for demonstration of concepts. The support from participating in Galeno's group and their practice of experimental psychology are examples of the institutional consequences of gathering people in a laboratory, as in experimental psychology. One special consequence was the consolidation of a *modus operandi* that would give a specific scientific identity to the psychology degree at UFMG. The work of these first professors of the course, with its emphasis on experimentalism, subsidized teaching practices that were aligned with a psychology interested in the "development of objective data."

Final Considerations

This analysis has enabled us to introduce the laboratory of experimental psychology as a truth-spot in the initial moments of the formation of the psychology degree at UFMG. It has also helped to show that this laboratory provided a set of supports for professors of psychology at UFMG in the 1960s. Moreover, as a pedagogical tool, the laboratory influenced the implementation of the psychology degree at UFMG. The influence of the laboratory and its support role can be observed from several perspectives: (1) in the higher education framework of the national context and of developments in psychology, (2) from documents that deal with the legitimacy of psychology in Brazil, and (3) with regard to the role of a laboratory of experimental psychology in establishing a psychology degree at UFMG. In particular, the laboratory was important in consolidating a *modus operandi* that granted scientific identity and an enhanced professional status to the newly created psychology degree at UFMG.

[7] Letter signed by Adi Álvares Corrêa Dias, addressed to the director of the School of Philosophy at UFMG (FaFi/UFMG), Pedro Parafita de Bessa. It considers a demand from 131 students in the psychology course for opening new classes. March 21, 1968. 6f.

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