

7: Education and Science Diffusion

7.01 Ethnozoology aspects of the species *Eunectes murinus* (sucuri) Linnaeus, 1758 in São Paulo State, Brazil

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Introduction: The largest non-venomous constrictor snakes of the New World belong to the family Boidae and are popularly known as boas, pythons, sucuri or anaconda, which has several regional names. The genus *Eunectes* is distributed in South America, and Brazil has a wide distribution, covering the state of São Paulo, except in the coastal zone. The species *E. murinus* is known by the size and strength of the body, the olive green color with its oval black spots, the large format of the head and the presence of an orange band bordered by two black spots. Due to these characteristics of the species, usually the communities of the regions of occurrence are not confused, and information reflects the common knowledge often acquired over generations. The capture of reptiles by the usual methods such as active search, drop traps and hunting, among other methods has not been very effective, and it is recommended that a larger number of samplings be performed, collections, such as night operations and obtaining information from the local populations. The help and involvement of communities to acquire data on the species is of great value. **Objective:** The aim of this study was to focus on the ethnozoological aspects of this species, knowing that the snake is embedded in the daily life of the communities sampled, indicating the status of the species is maintained in urban and rural areas occupied by people in the state of São Paulo. **Methods:** For the collection of ethnozoology data, a free questionnaire was prepared. Its application has a dynamic of its own, whose goal was to address various socio-cultural aspects of human-animal relationship - family stories and fantasy stories. Contact and informal interviews were conducted with urban and rural populations in 12 localities in the state of São Paulo. **Results and Discussion:** Ethnozoological aspects suggest that humans tend to entertain feelings of harm, danger, irritability, aversion and contempt for certain animals, including snakes. The representation or categorization that society is in this case and fauna of snakes is an essential part of the historical references to which they are accustomed. A total of 36 reports showed that the respondent usually refers to snakes giving features that confuse the senses in negative qualities and attributes of beauty. The species studied is present in everyday life, where the observation of its habits is directly related to the environment in which they are. Some respondents highlighted the size or shape of the anaconda and issued opinions about their behavior in occasional encounters with humans, demonstrating familiarity in relation to their habits. The naturalness with which they speak of encounters indicates a relationship that is not always ruled by fear, but by curiosity and fascination with regard to aesthetic-descriptive aspects and entertainment. This information is reflected in knowledge and beliefs of humans, as we have seen in the sample and is therefore important from a socio-cultural and economic aspect, in that it promotes the recovery of other knowledge and other cultures, besides amassing knowledge that is usually consistent with postulated academic knowledge.

7.02 Learning activity in science museums

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Introduction: Museums have in common the character of cultural heritage conservation and extroversion regardless of their kind and origin context. Although historically the social role of these institutions have been changing in impact and reasons, a dimension becomes clear: museums, based on the model known today, are educational spaces, organized with human knowledge historically constructed, shared and re-produced by active subjects. How do the museums lead this process, considering their audience as composed of individuals who give value and meaning to this heritage? Intending a discussion on understanding the social role of museums in terms of appropriation and re-production of culture, we used the historical-cultural approach, based on the ideas of Vygotsky, Leontiev and Davydov and we focused on the process of learning concepts and practices. We have assumed *a priori* that science museums are places where the learning process is present but not necessarily the learning activity. We distinguished, therefore, "learning" from "learning activity", considering that the latter should be investigated. **Objectives:** We aimed to understand how the learning activity is structured in science museums. **Methods:** An institution was chosen for analysis, the Museu Biológico do Instituto Butantan, and we tried to understand its long-term exhibition through a historical perspective. For this, we analyzed documents and institutional and personal collections related to science education and science communication practices held by the Instituto Butantan since its creation in 1901. On a higher scale, the analysis of cycles and microcycles of learning activity was developed from the point of view of visitors and monitors. For that, semi-structured interviews with museum guides and visiting families were recorded on audio and video. **Results and Discussion:** The macrocycles of expansive learning founded helped us to understand the current exhibition not only as a product of the anxieties and assumptions of the team of professionals involved, but as a result of activities developed over a whole century, which currently affect the interactions between audience and institution. The theoretical approaches used in this research, including the concept of "practice communities," offered important tips for organizing the educational activities in science museums, especially related to the positioning of the museum object as mediator artifact. Elements such as the use of germ-cell models and inquiry situations, the selection of nuclear concepts and practices, the promoting of the ascending from abstract to concrete, the movement between actions and operations, the use of the proximal development zone, and the social and semiotic mediation, were described as being important for the professional praxis of museum educators. With the relationship between activity theory and learning in museums, it is expected that this research may contribute to the understanding of museums as "mediator" structures which facilitate the many possibilities of interaction between the individuals and culture.

7.03 Learning in science museums: the young visitor at the Museu de Microbiologia

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Introduction: Science museums have historically prioritized actions focusing on scholarly public. However, different audiences attend these facilities. The Museu de Microbiologia receives a significant number of families, children and non-scholarly groups. Facing such demand, the studies aimed at learning about this public in order to plan appropriate educational activities are important. Research about small children (4 to 6 years old) visiting museums are little tackled in the literature in this field. However, they are crucial because the scientific literacy at this age contributes to the improvement of children's understanding of the world. For the development of activities regarding microbiology we have to consider some characteristics of small children such as the need for visualization, manipulation and play. **Objectives:** The aim of this work was to survey the main educational and communicational strategies that a science museum can use to bring youths closer to scientific culture. **Methods:** The first phase of this research, already completed, consisted of semi-structured interviews with children visiting the museum or attending the nursery school. The second phase, in progress, consists of the establishment of a children's exhibition and the analysis about youths' ways to explore it. In the first phase, qualitative research was prioritized in perception studies. The data were obtained from audio and video recorded interviews and children's drawings. **Results and Discussion:** Most young visitors understood that there are organisms not visible with the naked eye; some did not think about the possibility of using instruments to make them visible; many of them mentioned the microbe size, but only a few used the scale concept; most described their shapes and colors. While the nursery school children recognized microorganisms in different environments (water, air, living things, compost), the museum visitors usually associated them with houses and dirt. Most considered microbes as "bad beings" and generally remarked that they exist in the body (hands and feet). Rare were the children who perceived the relationship between microbes and food. The data allowed the establishment of the thematic axes to be explored in the new exhibition: scale, biodiversity, biological function, relationship with human beings and with food. These axes should be presented in the exhibition devices with different difficulty levels and should facilitate the interaction within the groups. We believe that the new expographic space will bring more elements to investigate which communicational and educational strategies can draw the empirical knowledge of the youths closer to scientific culture.

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7.04 Darwin and Wallace's vision of Brazil

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Introduction: In 2008 the Museu Histórico presented the exposition “Darwin and Wallace’s vision of Brazil” during the Semana Nacional de C&T, presenting the subject Evolution and Diversity. With the Laboratório de Herpetologia and História da Ciência, the team of the Museum chose to participate in the commemorations of the 150 years of the Theory of the Evolution of the Species which were happening in all Brazil during the period. **Objective:** The objective was to argue the relation between the concepts of evolution and half-environment, based on it uses and applications in the study of sciences in Brazil, as for example the model of the Theory of the Shelters. In a historical perspective, we revise the trajectory of both naturalists in Brazil, arguing the impression they had had of the nature and the culture in the coast and the Amazon region, also debating its appropriations in the diverse areas of the knowledge, as in social sciences. **Methods:** The exposition was composed of illustrative and informative panels, educational game and space simulating the Rio Negro with taxidermied animals of the Museu de Zoologia da USP. The intention of the educational action was to promote the argument of concepts that had historically derived from the theories of evolution. For the students of average education we detached the relation between biodiversity, evolution and society, and for the children of basic education we created a camouflage game. To divulge and to interact with the other educational spaces that had also participated in the commemoration, the Museum closed the exposition with informative panel detaching some other events that were happening. Each educator was responsible for a group. The characteristics of the students (purpose and time of the visit, number and age of students) determined the action of the educator, where in some cases a guided tour was selected, with a passage previously defined. In other cases, the tour was free and the educator only introduced the exposition calling the attention to some applications of the evolution concept. This same methodology was used with the other public of the museum. **Results and Discussion:** The museum received 80 schools and the visits from other segments of the public, during 30 days in September and 31 in October. The majority of the schools did not have knowledge about Semana de C&T, but when being informed that the activity was part of a national program, the schools wanted to participate and to help the educators, resulting in a positive evaluation how much the exploitation and interest, over all in the case of average education. In the case of the visitor who did not visit the exposition with a school, the educators did not interfere, interacting only when requested. For the Museu Histórico the execution of the exposition was a chance in correlating significant subjects for the Institution to a historical boarding, arguing the assimilation of concepts of natural life for social disciplines.

7.05 Preparation and production of temporary exhibition "Expo-Frog: a leap to extinction" at the Museu Biológico of the Instituto Butantan with qualitative assessment of public opinions

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Introduction: The Museu Biológico do Instituto Butantan (MIB) was established with development itself. The purpose of keeping the museum has always been to disseminate environmental education related to venomous animals. In the search for renewal and promotion of dissemination as an institution, the MIB has invested in temporary exhibitions, as the "Expo-Frog: A leap of Extinction", whose main guideline was the conservation of the group of amphibians. The choice of theme is related to the international movement to preserve these animals, being considered in 2008 the "Year of the Amphibians." **Objectives:** The objective of this study is to describe the production of "Expo-Frog", from the choice of and preparation of animals exposed information boards, and to evaluate the spontaneous perception of the visitor on this exposure. **Methods:** The study began with literature on amphibians. The assembly of the "Expo-frog" followed the pattern adopted by the MIB, on the earlier temporary exhibitions, with the use of information boards and dioramas. The preparation of the panels was the most expensive: the selected information and images that address the issues raised in the exposure: characteristics of amphibians, biodiversity, threats to survival and curiosities. Considering these aspects, set - the preparation of 6 panels. Some species of amphibians have been selected for exhibition in order to demonstrate the diversity of the group, so were mounted 7 biodioramas that "doing" the workings of their selected species. The exhibition was mounted in the building of the MIB corridor located in the final portion of the permanent exhibition in a space of 6.0 m long by 3.5 m wide. To assess the perception of the public visiting spontaneously, was used in summative evaluation, a study that examines the interaction between exposure and public. Therefore, the chosen methods were the timing and tracking & semi-structured. 22 visitors were observed in timing & tracking and among them 13 were selected for semi-structured interview. **Results and Discussion:** The temporary exhibition "Expo-frog: the one jump of Flameout!" began on 20/10/2008 and ended 20/12/2008 days, part of this period was the school recess. Evaluation with spontaneous visitors was conducted during a week in the month of December 2008. It was observed that visitors felt more attracted by biodioramas, especially those that contained three copies of *Dendrobates tinctorius*, very showy animal, which demonstrates the success of being exposed animals, the panels were not perceived in the exhibition. This experience suggests new directions regarding museographic aspects and museum for the next temporary exhibition and the MIB as a whole, especially for text information, to make the exhibition more attractive to visitors. These changes suggest the expansion of the role of the MIB as institution for disseminating scientific and environmental education related to venomous animals.

7.06 Dissemination of information and education in the Instituto Butantan, yesterday and today

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Introduction: The hygienist Republican thought that the twentieth century beginning gave to Vital Brazil and to Instituto Butantan a scenario leading to discussion of dissemination of scientific knowledge. The exchange of snakes antivenoms, as well as questionnaires and instructions for prophylaxis, was introduced to the state of São Paulo not only the scientism of specific serum, but mainly the hygiene public policies and public health. Vital Brazil with his assistants offered courses, conferences, murals, lectures and other means dissemination science for population health education. In 1918, was the first class of school group's directors in the Public Hygiene Elementary Course. Trained by the Instituto Butantan, should be knowledge multipliers to return to their cities. Moreover, the Institute formed its staff, largely composed of young doctors and medical students. Today, the Butantan works with various forms of knowledge dissemination and its products and research are recognized worldwide. **Objective:** Among the various practices of research about dissemination and education conducted in the Institute's Museum – Biológico, Histórico and Microbiologia - win highlighted the activities developed, in general, with the school audience. Aiming to find language that exceeded the limits of museums, integrating historical knowledge, architectural, biological (and microbiological), geographical, sociological, artistic and economic, in May 2009, the Museu Histórico attended the 7a Semana Nacional dos Museus, performing monitoring with pre-scheduled schools. **Methods:** The direction was developed from initial research which developed in the Instituto Butantan archive and by informal reports from the Butantan employee. Four central themes were identified: History, Economic, Scientific and Architectural. The direction crossed the quadrilateral composed between the Museu Histórico, the Prédio Central, the Complexo Bioindustrial and the Centro de Difusão Científica, also passing through some intermediate buildings where we discussed issues related to Brazilian public health, development and affirmation of science and spatial distribution. The activity was realized with five schools and led by three Museu Histórico educators. **Results and Discussion:** With the monitoring development was possible to notice how the spaces outside of the Institution are not known by school groups which attend the Butantan, reducing the students understanding about the importance of the park for science since the beginning of the twentieth century and motivating new educational activity creation to be realized once a month with previously scheduled school. Help from materials (films, photos and tables of comparative time) made during the activity allowed the possibility of integrating with external monitoring visits to three museums, something essential for a better use of time and space. The implementation of the activity by the Divisão Cultural of the Instituto Butantan contributes effectively to the purpose of science dissemination and the scientific knowledge produced in different areas of work within the Institution.

7.07 Mythical and fantasy approaches to snakes reported by visitors to the Museu Biológico - Instituto Butantan

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Introduction: Legends, myths, cases, superstitions and beliefs have as central theme, the snakes. In the history of mankind, it is common to find representations of animals and appreciation over time, differently in cultures. In the case of snakes, interpretations vary as to adjectives, but by observed facts or information, they are always protagonists of narratives and popular superstition. **Objective:** To note the analogy of visitors, about the reports of the main mythical approaches and fantasy reports related to snakes, learning their origin and establishing relations between cultural and scientific knowledge. **Methods:** A semi-structured questionnaire was given to obtain the reports of visitors to the Museu Biológico. Interviewees were chosen at random or when citing a legend, myth and beliefs about snakes. Interviews were conducted on January 21 and 22, February 11 and 12, and March 18 and 19 of 2006, respectively Saturdays and Sundays, days on which there are a large number of visitors from various places. The interviews were conducted emphasizing only the objective proposed in the work. **Results and Discussion:** Ninety-two interviews were obtained with a total of 166 reports; these included 51 men and 41 women, divided by regions of Brazil. With 60% of visitors living in the Southeast, a high number was expected since the Instituto Butantan is located in this region, followed by the Northeast 17%, South 11%, Mid-West 9% and North 3%. The interviewees described that the reports were told to them by well known individuals and often by members of their family; some were read or experienced. Several authors describe the snakes in various legends, myths and superstition as a popular symbol of good, evil, wisdom, fertility, immortality, and misfortune among other qualities. The work at the Museu Biológico do Instituto Butantan produces satisfactory results, where it was found that the interviews had 25 entries for stories with snakes. With the results mentioned in this work, we can adapt the information for each region and this without the intention of demystifying its legends, myths and beliefs, including scientific knowledge of events or experiences. No matter the age, sex, level of education or even the region of origin, there will always be fantastic and mythical stories about snakes, which is an animal that attracts us, whether it has received qualities over time. Investigations by the popular information and overlapping scientific knowledge will help prevent accidents and make better use of the knowledge for public health.

7.08 Workshop on history: legacy and memory of Belterra's community, Pará State, Brazil

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Introduction: In April 2009, activities concerning patrimonial education were developed with teachers of the public elementary schools and the general community of Belterra/Pará. This represented the official outset of activities on History, proposed in the context of the Projeto Butantan na Amazônia and further extended to the Projeto Instituto Nacional de Ciência e Tecnologia em Toxinas (INCTTOX). **Objective:** To involve and to touch the general community about the importance of rescuing cultural patrimonies, thus motivating them to raise historical documents and to recover the history of local health and popular practices about poisonous animals. **Methods:** in May 2009 workshops on History were developed in two steps. In the first one, people from the Belterra's municipality, which were participating in the Feira de Agricultura Familiar, were randomly invited to select images of natural and cultural patrimonies that were considered relevant to the History of the region. They were asked to fix those figures in a map so as to offer a spatial distribution of these places. All participations were filmed to be presented, in a second step, to the teachers of public schools located in the urban area. At this time, they were the central subjects of the activity, creating a list of places of social and economical importance that should be preserved. From this point of discussion it was possible to introduce the concept of immaterial patrimony, which is unattainable but cultural as well, and therefore representative of an identity. **Results and Discussion:** Both community participants and teachers identified historical buildings as being important, such as the water tank, the main square and houses built at the time of Ford Company administration. There were also considered as a patrimony the Floresta Nacional do Tapajós and river beaches. Some people identified the rural union trade and the local hospital as patrimonies to be preserved. In fact, health was said to be a patrimony of the population. At this point, a debate concerning traditional knowledge to treat diseases, snake bites and other animal injuries has risen. Many testimonies were given, most referring to constraints and contradictories involving this subject. There were no doubts that this knowledge represents a cultural patrimony to be preserved. However, they were aware that it is not supported by science and their role as educational agents introduce a further difficulty regarding this issue. All material was left at the Education and Culture Secretaries' disposal, to be used with other teachers, students and parents. During the field work, we found out that it is necessary to better articulate historical and ethnological approaches to go deep into this subject. In this way, these data indicate that traditional knowledge has historical origins, which are identifying elements of a community. Medical anthropology and ethnozoology are areas to be incorporated in the Butantan's actions, whether in the Amazon or other regions, at least in terms of health approach. We should develop more workshops with different communities taking into account historical, patrimonial and traditional knowledge of these populations.

7.09 Museu de Microbiologia and the dissemination of microorganism diversity

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Introduction: As an activity of the “Week of Science and Technology, 2008”, whose theme was “Biodiversity,” the Museu de Microbiologia do Instituto Butantan held the temporary exhibition “The invisible world of microbes: Biodiversity and Art” which addressed the issue of microorganism diversity in a creative and differentiated way. The microbes, the smallest beings that are known, are found in almost all environments - sea, land, underground, hot springs, glaciers - and in living beings, like plants and animals (including human beings), playing the most varied roles. Fungi, bacteria, viruses and protozoa have different forms, exhibit many strategies for survival using various substances and are related to humans in multiple ways. They are highly diverse, making it difficult to approach this issue in an exhibition. **Objectives:** The aim of this project was to develop a temporary exhibition exploring the microorganism universe, emphasizing their biodiversity and biological function in a creative, fun and consistent way. **Methods:** Several expographic resources, interactive and contemplative ones, were used in this exhibition. In order to observe the difference between desert and forest environments, regarding the number and diversity of bacterial species, fluorescent materials were used in two dioramas and were detected by a black light. Relevant texts in posters complete the activities information. Fabric mini-panels bringing curiosities about the microorganism biodiversity were hung from the ceiling and were available for handling after pulling them. The comparison between the estimated number of bacterial species described in the scientific literature with the estimated number of other living species, such as insects and mammals was demonstrated by a three-dimensional graph fitted with glass tubes. The DNA, extremely important in the study of biodiversity, was exposed as a model built with jelly candy. The art was one of the strategies used to illustrate the variety of shapes the microbes may have. A workshop of “light painting” was prepared to encourage the artistic creativity of the visitors, creating microorganism images with light. **Results and Discussion:** About 40,000 people have visited the exhibition, including 7,000 students. The expographic strategies used in the exhibition attracted the public in variable degrees of interest, as observed by the museum educators. The interactive apparatus was the most exploited by the public. The DNA molecule built with jelly candy intensively stimulates the public, especially children, encouraging many questions about the relationship between microorganisms and DNA. The most attractive activity in the exhibition was the workshop of “light painting” providing a collective moment, and propitiating discussion on this subject. In general, it was observed that the expographic strategies used in this exhibition were satisfactory, reaching the goal of bringing to the public a little knowledge of the microorganism diversity and also entertainment and art.

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7.10 Discourse construction and conceptual learning at the Museu de Microbiologia: serum and vaccine concepts

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Introduction: Studies aimed at examining the transformation of scientific knowledge produced in academics into the knowledge produced in the museum environments are increasing considerably. The Didactic Transposition concept used in this research is described at museums as Museographic Transposition: the movement to build an educational message, when the knowledge validated in academic and scientific spheres are modified, simplified in its complexity and transformed into “knowledge to be taught.” But, this transformation reaches another step when it comes to the classroom where the teacher transforms this “knowledge to be taught” into an education content (the “knowledge taught”). Thus, for teaching a particular element of knowledge, this element should undergo some transformations. In the museum environment, it is important to understand how this transposition facilitates the meaning-making process by visitors. **Objectives:** The aim of this work was to a) investigate the discourse construction of the Museum’s long term exhibition regarding serum and vaccine concepts, b) examine the process of museographic transposition and c) analyze the discourse understanding by visitors. **Methods:** We performed the following data collection processes: survey of exhibits that contain references to the studied topics, interviews with the exhibition curators, survey of the main transformations presented in the serum and vaccine concepts (in context, time, origin and authors), and semi-structured interviews with randomly selected visitors before and after the visit (stimulated recall method). Three of these interviews were transcribed. **Results and Discussion:** We identified 15 exhibits that showed the concept of serum and/or vaccine. The transformation processes mainly observed were decontextualization and changes in contemporaneity. The process of naturalization was rarely observed. Analysis of the interviews demonstrated that the “visitor identity” and the “learning environment” affected the types of conversational elaborations by visitors. Although more observations are needed, the initial data suggest that the process of museographic transposition of the studied concepts (serum and vaccine) interferes in the visitors conversational elaborations. However, rather than approximate the visitor to this knowledge, the exhibition discourse seems to create a greater distance. Finding the “errors” and “updating problems” of the Museu de Microbiologia long-term exhibition was not the intent of this research. The purpose was to take the Museographic Transposition not as a “necessary evil” to be supplanted, but rather as an important phase in the science museum education process, which must be conducted with awareness, consistency and intentionality.

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7.11 History and institute memoirs workshop: the collective construction of a timeline of Instituto Butantan

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Introduction: This paper proposes a reflection on the institutional memory and history of the Instituto Butantan, which functions daily due to the congregation of individual functions. Each of these individuals have their own emotions, yearnings and memories, and their interaction among themselves and their surrounding society constitutes an institutional history; this too is inclusive of the History of Instituto Butantan, which is made every day with the contribution of each and every one. The reflection regarding memory is about collecting all these individual contributions for the construction of a collective and social memory. **Objective:** The objective of the History and Institutional Memory Workshop was to create and to develop a timeline of Butantan, through a group work that includes the actual workers, from both the Institution and the Foundation. Based on this activity, we intended to define the relationships between the individual and collective memory and between the individual and the institutional memory. **Methods:** The participation of the group motivates the collective reasoning, carried out through the methodology of Oral History. The source used was based on narrative and memory, both individual and social. Starting with the individual memory, which can also be defined as a construction of the present, in order to compose the timeline of that group; each and every element brought was able to be collected and transformed into recorded implements of an institutional narrative. The Workshop was developed with two stages: first, the Round of History – which consists of individuals' stories about the first contact with the Instituto Butantan –, secondly, the construction of the institutional timeline, developed through four previously defined topics– external context, internal context, personages and staff (this last referring one to the contact of that individual with the Institution). **Results and Discussion:** The Workshop was completed twice, and both times resulted in the construction of an institutional timeline. The first time was made among educators of the Museu Histórico and the second time, it was made among a bigger group, that included the educators, the employees of the Museu Histórico, the team of the Laboratório de História da Ciência, representatives of the Laboratório de Herpetologia, the Museu Biológico and the members of the Assessoria de Imprensa. As expected, we noticed that each one presented different facts and visions of the subject, resulting in different identity for each group. The construction of the timeline presented some variables concerning the time of contact between the individual and the Institution, the type of bond, and the internal relations of work, among others. The existence of gaps in the institutional history, observed in determined periods of the history of Butantan deserves a greater reflection, and therefore, it is necessary to question if these facts are silenced or unknown, as well as why do they happen. Aside from that, this study was intended to test the applicability of this methodology in order to construct a timeline for the exposition of the Historical Museum and based on that, utilize the potential modifications on these topics, to apply as an organized INCTTOX (Projeto Instituto Nacional de Ciência e Tecnologia em Toxinas) Project activity, in the Amazon, discussing the History of the Health in Belterra based on the means of involvement among the members of the community.

7.12 The program “Cultura é Currículo” and educational strategies

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Introduction: Since 2008, Instituto Butantan has integrated the program “Cultura é Currículo” established by the Secretaria de Educação of the Estado de São Paulo in partnership with FDE – Fundação para o Desenvolvimento da Educação. The Project makes it possible for students from state schools to visit cultural institutions and the intention is to integrate the activities developed with the programming of the schools. The activity “Lugares de Aprender” is included in Instituto Butantan, where it is dedicated to the study of living beings and involves a series of basic study. The diffusion of the scientific production is commitment of the IB since its foundation and, considering the importance of the educational action for the promotion of this knowledge, the team of the historical museum is committed to the development of activities that introduce the students with guided visits. **Objective:** The objective of this activity is to stimulate the children to compose a report of the process of the production of serum and vaccines, through current and historical icons approaching the knowledge of science in their lives. **Methods:** The didactic material distributed by the FDE consists of a booklet with activities for classroom and a film. This material offered the conceptual basis for the adopted pedagogical strategy in the Museu Histórico. Moreover, a questionnaire created for the educator was made after the visit, to evaluate the visit, identifying by which methods instrumentalism reflects the concrete-symbolic universe of the students. The category of the living beings does not encompass all the activities carried out by the IB, such as the production of serum and vaccines and the research directed to the public health. As parts of a puzzle, students will be make mobile posters creating two lines parallel in the display panels. The first line will present the procedures of the first laboratories of the IB. The second will be dedicated to environments of current research and production. The intention is that the children follow the stages of the production of the serum and vaccines, tracing comparisons between the past and the present. **Results and Discussion:** The educational actions of the Museums reflect the concern with the diffusion of the scientific knowledge and these procedures guarantee the learning of educators and students. Analyzing the questionnaires, we detected that half of the accompanying teachers were unaware of the Program “Cultura é Currículo” or had not used the distributed material. Therefore, to assure a productive visit, the proposal of the illustrated guide and the intervention of the educator allowed to create important resources for the understanding of the objectives and activities developed for the IB. To divulge the activities of the IB is the responsibility of museums as places of education. Therefore, the Museu Histórico stimulates the reflection between our past and our gift through the changes that have occurred in the operational way of the production of serum and vaccines and of the laboratories. Our intention is to adapt our actions with the needs of the public, keeping our responsibility with the education and the spreading of the generated knowledge between education and learning.

7.13 Instituto Butantan and its archival treatment

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Presentation: The production and accumulation of documents are inherent practices of the work of institutions or people and reveal important characteristics of their own work. The document production of Instituto Butantan for a period was created by institutional functions, mainly in the direction that divulged in annual reports its activities (ongoing and ending). But, after some years, with the Institute's environment the volume of the documents increased, the installations became crowded, and a large record management began.

Objective: Some scientists believe that scientific records are found in articles and specialized publications, so it is important to preserve the intermediate stages of a research to understand the steps of the investigation. But, before taking actions to preserve the scientific memory inside the Institute, it was necessary to produce a diagnostic to know the old practices about the document treatment.

Methods: To know the institutional politics about the archive, some interviews were made to listen to the opinion and action of the workers with regard to document preservation as being important to the institution's memory. The choice of the candidates was based on their position and activity developed to value document preservation. On the one hand, this decision provided closed responses to some questions so that the candidates have common interests about the historical aspect, but as this research intends to identify problems in a record management system, it was interesting to understand the reason why it is still not a reality. The questionnaires were answered by directors and others of the interest area. **Results and Discussion:** According to the answers, the inauguration of Museu Histórico with the reunion of antique records was the only significant experience that existed in the institution about the preservation of historical documents. There were no sections or professional specialized staff that could respond to the record management. The lack of policies for the treatment of historical archives biased the control about documental production, since historical archives are formed with documents provided from current documents. The inexistence of workers sensitization projects make the historical documents unknown for the researchers, and also, many scientists keep documents produced in the laboratory in their personal archival, making the access more difficult. Despite that IB is a state institution, the Sistema de Arquivos do Estado de São Paulo –SAESP still does not make this clear to the candidates, so it does not happen in an extensive way. With this information, it is important to have a more detailed evaluation, with all the institute sections and one member of the Arquivo Público do Estado de São Paulo, to clarify what SAESP is and also planning ways to make it a part of the Institute routine, helping with ongoing and completed productions and the preservation of the institutional memories. SAESP actuation is a big step to direct institutions that do not have a specialized professional or a space for a documentation archives center to do the records management.

7.14 Herpetological and related contributions in “Memórias do Instituto Butantan”: a compiling and updating approach

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Introduction: The technical/scientific journal “Memórias do Instituto Butantan” (MIB) had its first published issue in 1918. In 1994, this journal ceased as a formal scientific periodic. Nowadays, abstracts of the “Reunião Científica Annual,” a yearly regional meeting at Instituto Butantan, are published. **Objectives:** Compilation and updating the herpetological and related bibliography at MIB, assembling a database for perpetuation, accessibility and improvement of its valuable information. **Methods:** Issues of MIB available in the library of the Instituto Butantan, São Paulo, Brazil. **Results and Discussion:** Four hundred seven papers on this subject were published. Among several diversified topics such as Morphology (Anatomy, Histology, Cytology), Taxonomy, Natural History, Behavior, Epidemiology, Physiology, Ecology, Bioterrorism, and Antivenom-production, we highlight forty-three new species described. Twenty-four herpetological surveys in all Brazilian regions as well as in foreign countries (Colombia, Costa Rica, Guyana, Iran, Madagascar, Suriname, Venezuela) are accessible. All herpetological and related contributions published in MIB were chronologically indexed and cross-references assembled. Currently, there are two indexed Brazilian journals available specifically for the herpetological community (*Phyllomedusa* and *South American Journal of Herpetology*). The former MIB conceived as a formal scientific publication has been recognized for its importance to herpetology, since it is still widely used as a reference bibliography. The book “The Venomous Reptiles of the Western Hemisphere” authored by Jonathan Campbell and William Lamar in 2004, a comprehensive reference for herpetological research, quoted eighty-six articles published in the MIB. Besides this scientific relevance, we must further recall that a comprehensive historical approach also deserves consideration, since several icons of Science, including Nobel-prize winning authors are present in the MIB papers. In this way, we propose the extensive digitization of the MIB as well as its permanent accessibility in the Instituto Butantan website.