



**ANTHROPOLOGY  
of the CONTEMPORARY  
RESEARCH  
COLLABORATORY**

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**BOOK REVIEW  
LA MALADIE DE CHAGAS:  
HISTOIRE D'UN FLEAU  
CONTINENTAL**

**2007  
concept note**

**no.9**

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Suggested Citation: Caduff, Carlo. "Book Review: *La maladie de Chagas: histoire d'un fléau continental*," ARC Concept Note, No. 9, 2007.

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**François Delaporte**  
***La maladie de Chagas: histoire d'un fléau continental***  
**Paris 1999**

Book Review by Carlo Caduff

In *La Maladie de Chagas*, originally published in French in 1999, the historian of science François Delaporte carefully tracks the identification and characterization of Chagas' disease, also known as *American trypanosomiasis*.<sup>1</sup> Delaporte's brilliant historical exploration covers the period of 1909-1935. It is based on a reading of and engagement with technical scientific literature that is rather rare today. Analytically, Delaporte's study is heavily indebted to the project of a historical epistemology practiced by his mentor Georges Canguilhem. Shifts in conceptual frameworks are systematically revealed, and the fundamental role that chance and error play in scientific research is underlined.

Chagas' disease was named after Brazilian physician Carlos Chagas who identified the disease in 1909. The disease is caused by a parasite of the name of *Trypanosoma cruzi*, a germ transmitted to animals and humans by insects. The disease prevails primarily but not exclusively in rural areas of Latin America. Today, the US-Centers for Disease Control and Prevention estimates that as many as 8 to 11 million people suffer from Chagas' disease.

In his book, Delaporte briefly notes that the emergence of a colonial economy put an end to the semi-nomadic life of the native population in Brazil. The lucrative colonial trade in wood, diamonds, sugar, and coffee called for a sedentary, spatially fixed working force. Interestingly, the Jesuits entertained convergent interests in the creation of communities and villages that would bind groups to permanent locations. A fundamental change in the biosocial milieu was the result with a rural population now inhabiting dwellings constructed predominantly out of wood. Inadvertently, an ideal breeding place for insects was created.

In his book, Delaporte pays close attention to the role played by research institutions and public health agencies. As he remarks, issues of public health became a national priority in Brazil in the 19<sup>th</sup> century. The spread of infectious diseases was identified as a fundamental problem of utmost politico-economic importance. A rupture with former medical practices occurred. At the turn of the twentieth century, the federal government resolved to create a new institute: the Institute de Manguinhos. Its credo was: "Foi éternelle en la science." Oswaldo

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<sup>1</sup> Delaporte, F. 1999. *La maladie de Chagas*. Paris: Payot.

Cruz, who became the first director of the institute, chose a rather strange architectural style for the new center of scientific research: “En choisissant pour modèle de L’institut de Manguinhos L’observatoire du parc Montsouris, Cruz se fixait sur le style mauresque: expression symbolique d’un pouvoir spirituel et temporel. L’architecture de Manguinhos n’est pas le symbole de la science dans le paysage de Rio de Janeiro, mais celui des nouveaux pouvoirs liés à l’exercice de la médecine pastorienne.” p. 16. Fascinated by the dreamy orientalist architectural style of the Brazilian institute, German scientists flocked to Rio de Janeiro. Significantly, two noted disciples of the great Schaudinn moved from Berlin to Rio de Janeiro practicing a version of the German experimental science of protozoology in Brazil.

In the chapters that follow, Delaporte primarily takes issue with the work of medical historians and the way they have presented the discovery of *American trypanosomiasis*. These historians, Delaporte underscores, have uncritically reproduced the retrospective fiction of the discovery disseminated by Chagas himself. In 1909, Chagas stumbled inadvertently over a new parasite. As Chagas explained, this parasite seemed not to be pathogenic for its host. Prior to 1915, Chagas was prone to declare that he first encountered the parasite and only subsequently identified the corresponding disease. In 1915, however, the narrative abruptly shifted and Chagas henceforth claimed to have started with the disease to which he subsequently found both the parasite and the transmission vector.

However, as Delaporte shows, Chagas encountered the parasite purely by chance and then sent it to Cruz in order to experimentally infect a monkey in the laboratory with it. Chagas did so not because he was presumably driven by a medical interest in a particular pathological condition, but rather because he hypothesized that he had found an evolutionary form of *Trypanosoma minasense*. Cruz, once he infected a monkey experimentally, identified a new trypanosome: *Trypanosoma cruzi*. Delaporte puts it nicely: “Cruz a observé un trypanosome pathogène que Chagas ne cherchait pas.” p. 63.

Only after Cruz’s infection of a monkey and the discovery of *Trypanosoma cruzi*, Chagas began to look for a disease that would correspond to the parasite. In the words of Delaporte: “Chagas a finalement trouvé une maladie qu’il ne cherchait pas au départ.” p. 61. Clearly, error and chance played a key role in the way things happened – a role largely erased by the fictive retrospective accounts offered by Chagas, Cruz, and most medical historians. Significantly, these retrospective accounts were nicely in accord with the official mission of the institute that encouraged its members to systematically identify diseases and find their causes. Chagas’ disease indeed turned out to be a triumph for the institute, not least because it was successfully forced into a particular narrative that nicely reflected the institute’s mission statement. As Delaporte concludes: “La découverte de Chagas témoignait de l’excellence de

la médecine brésilienne, illustre la grandeur de l'institution scientifique et appelait une politique de santé publique." p. 65.

In the second chapter, Delaporte sets out to describe the medical system established by Chagas. It brought three disciplines into relation: protozoology and the explanation of the cycle of evolution of the parasite, endocrinology and the pathological condition of thyroid dysfunction, and, finally, epidemiology and the analysis of cases. "Le système médicale de Chagas présente une remarquable cohérence. Les solutions données aux problèmes que posaient le cycle du parasite, la clinique de la maladie et son épidémiologie s'emboîtent les unes dans les autres et se renforcent mutuellement." p. 99. However, all three elements of this peculiar medical system were seriously put in question later on. Ultimately, Chagas' stunningly coherent assemblage turned out to constitute a major obstacle in understanding the true nature of *American trypanosomiasis*.

The third chapter explores in more detail the fundamental criticism that Chagas' medical system soon encountered in both Brazil and Argentina. Based in Argentina, Kraus arrived at the conclusion that the pathogenic activity of *Trypanosoma cruzi* was an illusion and that the disease did not exist. It was a pure myth, he claimed. While Kraus, Parreiras, Horta, Peixoto, Aragao, and Vasconcellos flatly denied the existence of the disease, Carini, Escomel, Villela, Segovia, and Tejera confirmed the conclusions of the great Brazilian physician.

In the last chapter, Delaporte focuses on one more fascinating turn in the complex history of Chagas' disease. As Delaporte explains, since 1909 only a few human cases of Chagas' disease had actually been identified and reported. After 1935, however, the numbers eventually increased quite dramatically. Hundreds of cases were now diagnosed and Chagas' disease became endemic. What was the reason for this remarkable shift in scale? Traditionally, medical historians have explained this stunning shift by reference to the introduction of a new diagnostic method by Argentine scientists, based on the work of Romana. However, as Delaporte notes: "Les Argentins utilisent des méthodes de diagnostic qui ne sont pas différentes de celles qu'on appliquait par le passé." p. 142. Furthermore, it is assumed that it still was the same disease that was diagnosed in 1909 and 1935 respectively. However, Delaporte underscores that it was only in 1935 that physicians actually were able to diagnose *American trypanosomiasis*. As he notes: "On voit mal comment avant 1935 on aurait pu diagnostiquer la trypanosomiase américaine puisque l'idée qu'on s'en faisait excluait qu'on la trouvât." A new epidemiological horizon had emerged allowing the constitution of a new syndrome that transformed the very notion of the disease itself.

The key event occurred when the pure form of the disease eventually became clinically identifiable. The formation of the concept of *American trypanosomiasis*

took place not in the context of a diagnostic problem but in the context of a clinical problem, Delaporte declares. Significantly, it was shown that the transmission of the parasite was not due to an infected insect biting a human body and sucking its warm blood. Rather, after biting and ingesting blood, the insect defecate on the body. The parasite made entry by way of the eye. This mode of transmission and penetration also accounted for an epidemiological observation that had remained unexplained so far: Given the number of infected insects biting human bodies, the number of patients were counter-intuitively low.

As Delaporte points out, Chagas, Cruz, and their colleagues primarily worked with animals in an experimental setting. In so doing, the scientists produced an experimental disease that did not entirely correspond to what actually occurred in nature. “Quand on décrit les lésions au point d’inoculation des parasites, ce sont celles d’une maladie expérimentale. Ces recherches de laboratoire demeurent étrangères à la question des symptômes liés à la phase initiale de la maladie spontanée.” p.155.

The breakthrough, however, came with Romana who discovered a clinical sign that allowed a better identification of cases of disease. This sign was a remarkably simple phenomenon: unilateral palpebral edema, or a swelling of the eyelids. How could such a simple and seemingly obvious sign escape the attention of the Brazilian doctors? What was the reason for this strange blindness. Again, Delaporte underscores the significance of the conceptual. Signs can only become signs in the context of particular conceptual frameworks. Chagas’s conceptual framework was an obstacle obscuring a sign that later on appears so visible and evident.

Romana, Delaporte argues, did not discover the symptom by searching for patients. Rather, his discovery was due to the fact that he worked as a physician in a hospital located in a geographical zone where it was possible to observe acute forms of Chagas’ disease that were not confounded by other diseases. “L’exercice de la médecine dans une région rurale fut l’élément décisif: là se trouvaient réunis les conditions qui rendaient possible la perception des formes pures de la maladie de Chagas.” p. 161. Because confounding diseases were not present in this particular geographical zone (goiter in particular), Romana was able to discover a symptom that was moved to the foreground by a geographically distinctive pathological configuration. In the region north of Santafecino, trypanosomiasis happened to be endemic while goiter was not present. Accordingly, Romana concluded that trypanosomiasis was not a parasitic thyroiditis as Chagas claimed but a parasitosis.

The novel symptom made apparent by a new structure of visibility also pointed to a different mode of transmission and penetration. The parasite was

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transmitted by the feces of insects and entered the body by way of contamination of the eye. As Delaporte underscores, “ce n’est plus le diagnostic parasitologique qui commande le repérage des maladies, mais l’identification des maladies qui précède et oriente le diagnostic parasitologique. Sous cette inversion, il faut bien voir que ce sont les objets eux-mêmes qui one changé.” p. 168.