Poverty and Health: Skeletal Evidence of Syphilis at Charity Hospital Cemetery #2, New Orleans, Louisiana (1842-1929)

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Introduction

Syphilis is a multistage sexually transmitted disease caused by the bacterium *Treponema pallidum*. The disease can progress through three stages if left untreated. The primary stage consists of painless sores that can go unnoticed by infected individuals. The disease can progress to a secondary stage characterized by rashes and skin lesions centralized on damp parts of the body. Follow this, the disease often progresses to a latent stage; bacteria are still present, but the disease is not similarly symptomatic and is not sexually transmissible. The infection can resurge in a tertiary stage which features intense symptoms and high mortality. It is in this stage that skeletal involvement can occur.

Charity Hospital, an indigent or poor hospital, served individuals who could not access other forms of health care in New Orleans from 1721 to 2005. This project stems from the reanalysis of skeletal remains unearthed from a historic cemetery associated with the hospital. Of those examined thus far, four individuals show signs that may be consistent with syphilis; here we explore the hospital, this disease, and how we may see it skeletally in this assemblage.

Charity Hospital

Located in New Orleans, Louisiana

Two Cemeteries:
- Charity #1 used for deceased hospital patients and also served the as the burial site for unclaimed bodies in the city.
- Charity #2 was only used for deceased hospital patients.

The focus of this work is on Charity #2:
- Dates of Operation: 1842-1929

Figure 1: Depiction of Charity Hospital from 1874 (Tulane University 2026)

Charity Hospital Cemetery #2

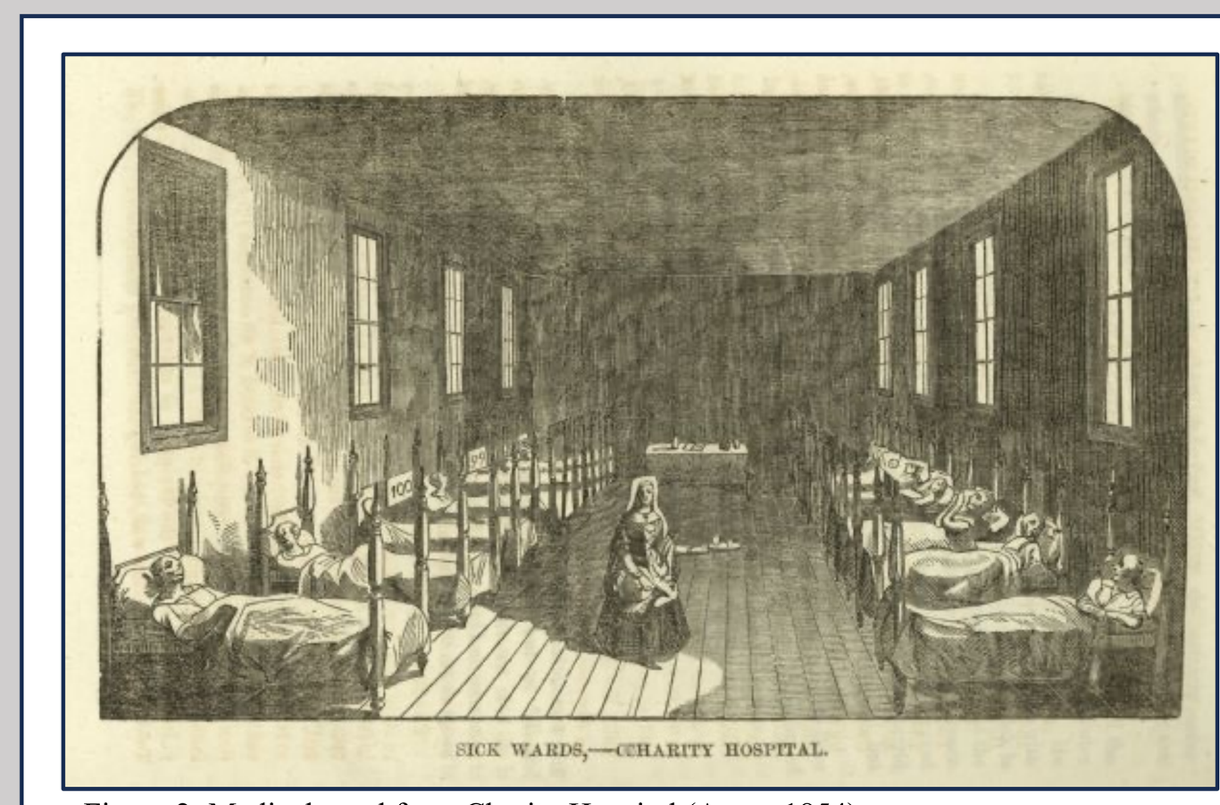

Figure 2: Medical ward from Charity Hospital (Anon. 1854)

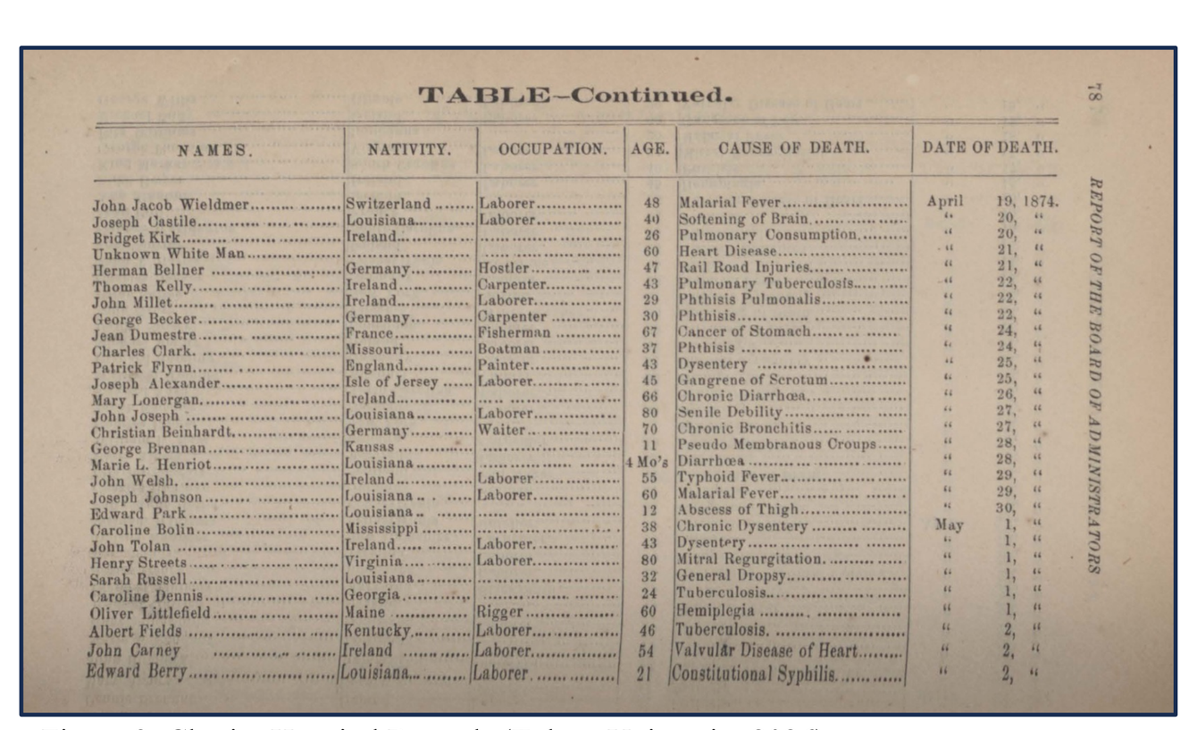
Figure 3: Charity Hospital Records (Tulane University 2026)

Skeletal Samples (n=3):
1. 74 commingled individuals salvaged during construction in the 1980s
2. 25 individuals were excavated prior to road maintenance in 2017
3. 271 Individuals excavated during construction in 1980s
   - a major re-analysis of these remains is on-going and is the subject of this poster

Methods

Biological Profile
- Sex Estimation using (Buikstra and Ubelaker 1994)
- Age Estimation using (Buikstra and Ubelaker 1994)
- Ancestry Estimation using (Plemons and Hefner 2016)

Paleopathological Analysis
- Observed and scored various lesions and their formation (Buikstra 2019; Waldron 2020; Zuckerman 2010)
- Differential Diagnosis: Comparing presentation of a disease to known disease patterns to identify or narrow down a diagnosis (Cleveland Clinic 2022)

Individual 95

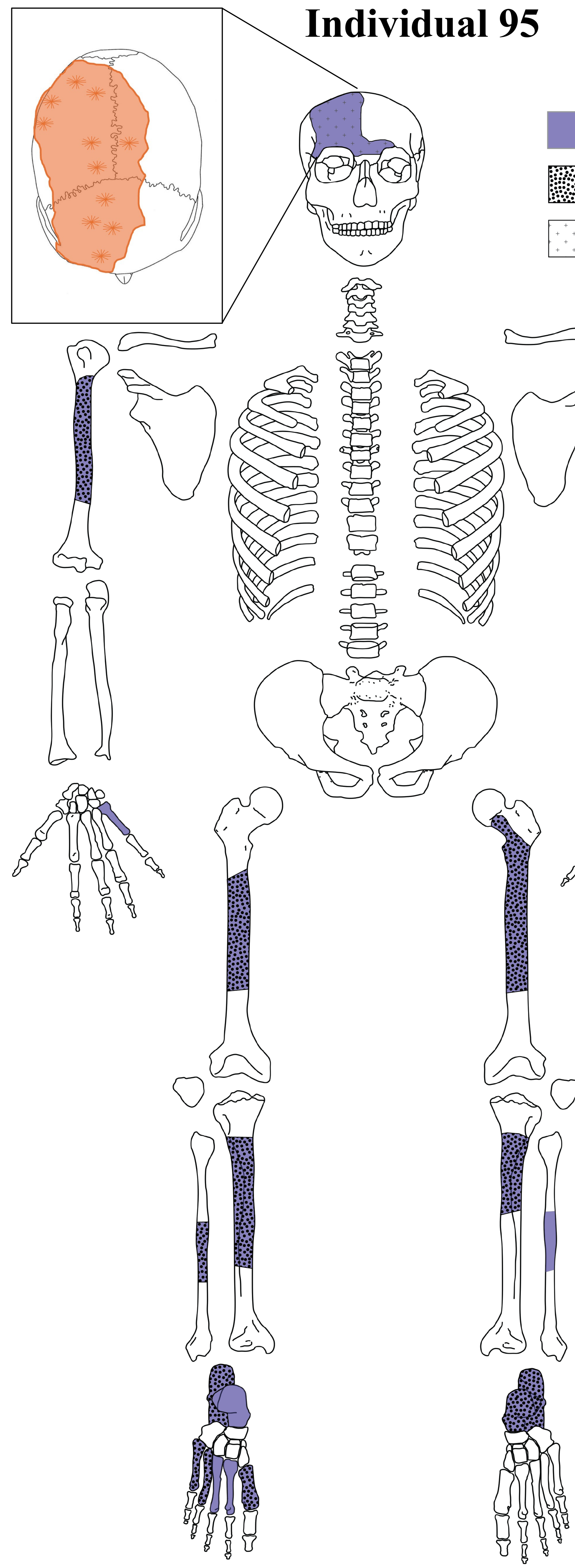

Figure 4: Individual 95; one of four individuals with signs of possible syphilis infection

Typical Skeletal Indicators of Syphilis

- "Star-burst" lesions on the cranium
- Lytic lesions on the facial bones
- Bilateral periosteal reactive new bone formation on long bones
- Filling of medullary cavity of long bones
- Formation of sequestra

Citations

Results and Discussion

Four individuals from the skeletal sample so far analyzed exhibit signs consistent with Tertiary Syphilis.

Differential Diagnosis: Of the 4 individuals only one exhibits the diagnostic starburst patterns associated with syphilis on the cranium—Individual 95 (figure 4).

The other three possible cases of syphilis are individuals 34C, 66B, and 94.
- Individual 34C, a young to middle adult of indeterminate osteological sex or ancestry, is represented by a crania, left and right femora, and the right tibia. Their femora and right tibia exhibited a near total loss of the medullary cavity, reactive outer surfaces, and early signs of cloaca formation—a pus drainage site.
- Individual 66B, an adult of indeterminate osteological sex or ancestry, is represented by a right 1st rib, left and right clavicles, all arm bones, and the left and right tibiae and fibulae. Both the left and right tibiae and fibulae have severe active osteomyelitis—an active bony infection—evidence by severe bony thickening via appositional growth. There is also a lytic lesion on the right clavicle.
- Individual 94, an adult of indeterminate osteological sex or ancestry, represented by numerous fragmentary remains and a complete mandible, shows signs of severe osteomyelitis on both fragmentary tibiae (with multiple cloaca). Their mandible also exhibits significant antemortem tooth loss.

While individuals 34C, 66B, and 94 show pathological conditions that could have resulted from syphilis, they are not specific enough and cannot be solely attributed to the disease.

Stigma and Illness: Throughout history, syphilis has been associated with various forms of stigma that have evolved over time. These stigmas have resulted in psychological and physiological consequences for affected individuals, providing challenges to receiving treatments and navigating their social and cultural landscapes; this could very well have been the case at Charity Hospital—including individual 95.

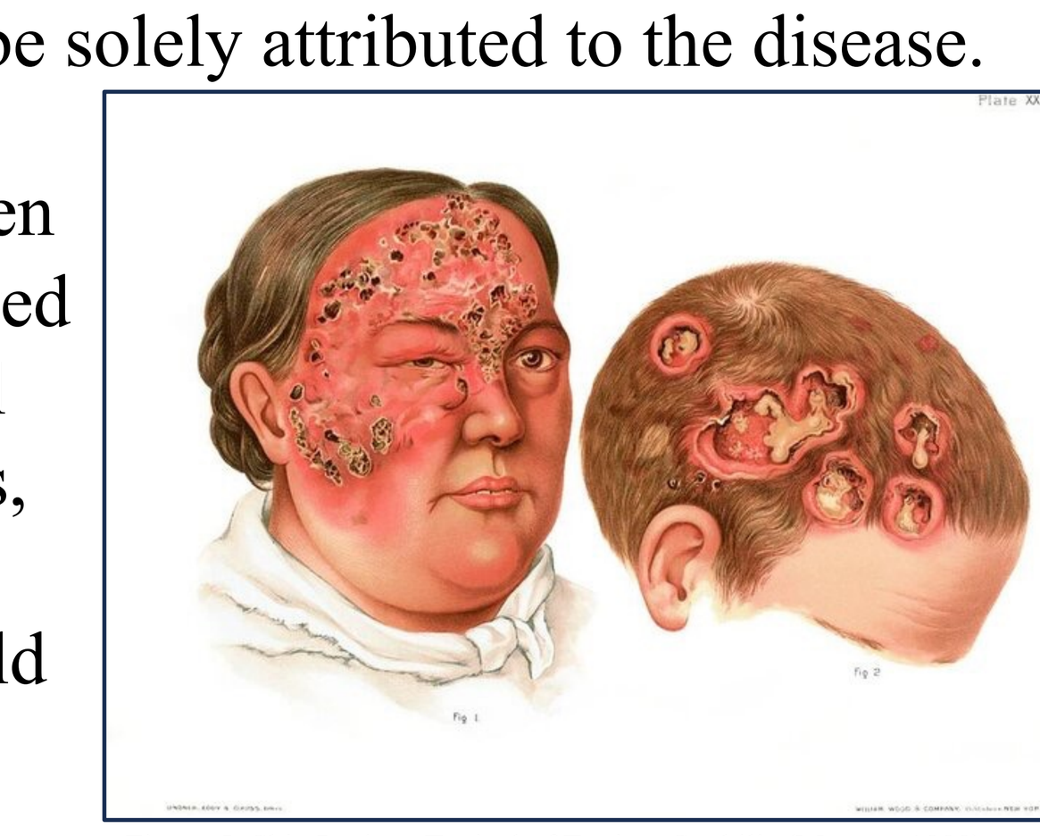
Figure 5: Skin Lesions Typical of Tertiary Syphilis (Morrow 1888)

History of Syphilis Stigma
- During the renaissance period (14th to 17th centuries) syphilis was associated with sinful behavior.
- By the mid-16th century, women and especially prostitutes were blamed for the spread of the disease
- In the 17th century at London's St. James Hospital patients with re-occurring syphilis were publicly whipped
- Several early medical treatises instruct the shunning and avoidance of individuals with syphilis
- Prior to Penicillin, Mercury was the primary treatment prescribed to individuals with syphilis
  - Mercury can cause lung damage, psychosis, and damage the nervous system

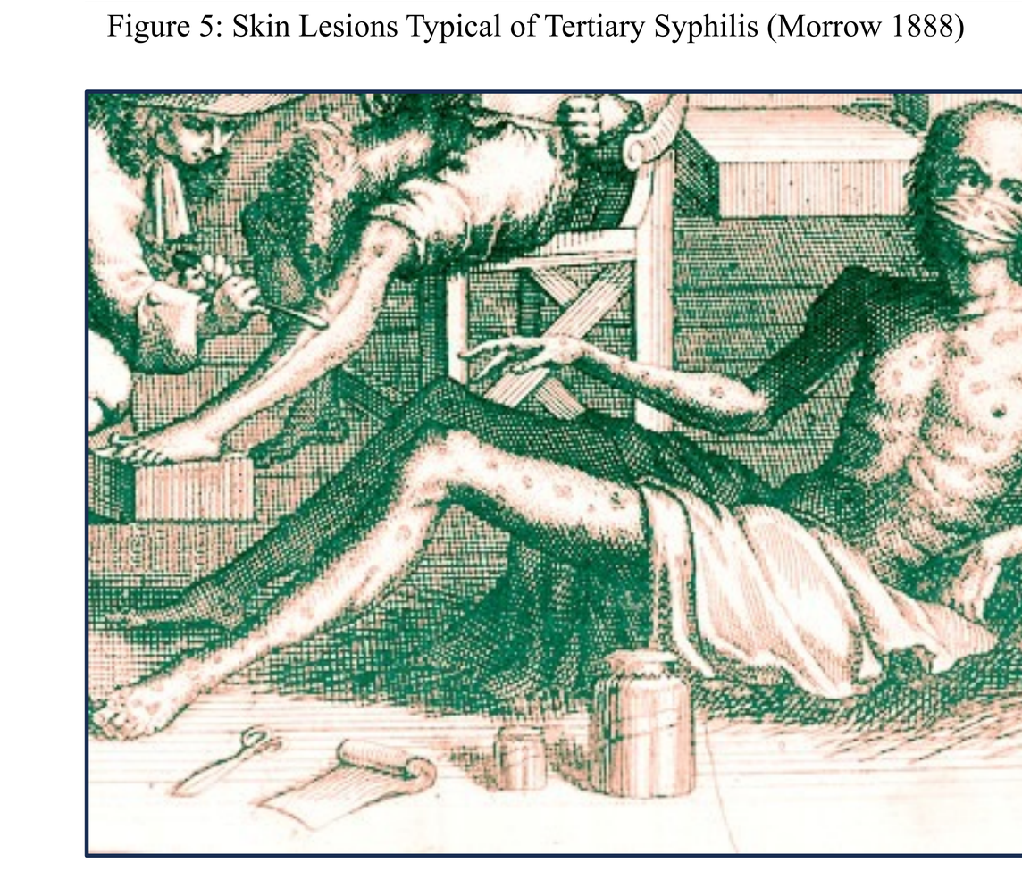
Figure 6: An individual suffering from syphilis and mercury poisoning (Mercury Poisoning/Syphilis Victim, From The Scourge of Venus and Mercury (Sintelaer 1709)

Conclusion

It is likely that one of the individuals examined here likely had and could have succumbed to tertiary syphilis, and the other three could have been afflicted, but there is too little data to support a single diagnosis.
- Individuals with syphilis endured both social and physiological effects, both of which had negative impacts on their overall health; this type of analysis is powerful in that it can individualize and humanize these experiences in the past and inform how we treated and still treat those with syphilis and similarly stigmatized illnesses.

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