

**Sources for the history of ethnosciences: the case of the Sacred Formulas of the  
Cherokees**

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Formularies, or books of prescriptions, are known since the very onset of recorded history—i.e. recorded events of the past. A large part of Egyptian papyri and Assyrian-Babylonian cuneiform tablets precisely consist of collections of medical prescriptions. This genre of literature awakened the attention of European scholars together with the rise of philology in the nineteenth century, to gain momentum starting in the early decades of the following century.<sup>1</sup>

To these authors' surprise, during research for another ongoing project, we fell upon a study of a formulary that antedates by several decades the earliest known ones. Not only is such temporal precedence noteworthy, but also the fact that this study was carried out in the "New," rather than in the "Old" World, and within a context entirely alien to that of philology, or of historical studies in general. We allude to *The Sacred Formulas of the Cherokees* (1891), published by James Mooney (1861–1921) in the United States of America in 1889.

Mooney is merely known, in the present time, as the first Westerner to have been ever invited to participate in a peyote ritual. Among scholars, a timid interest in Mooney awakened together with the recent reappraisal of the overall history of anthropology in the United States. Instead of a complete rupture between two learning traditions, namely the so-called "museum anthropology" and the modern discipline as we currently recognise it, spanning the late nineteenth century and the early decades of the twentieth century, scholars tend to portray this era as a period of transition and (dis)continuity. (Hinsley 1981, Darnell 2000). Within this context, Mooney's career is seen as one of the exemplary cases.

Scholarly studies on Cherokee medicine are even scarcer, which fact is rather shocking when one considers they are one of the most studied North American native peoples (Raymond 1978; White, 2001). Following the initial studies by Mooney and Charles C. Royce in the late 1880s–1890s, cultural studies of the Cherokee had a "golden age" in the

1960s and 1970s with the work of James and Anna Kilpatrick, William H. Gilbert, and Raymond D. Fogelson (Fogelson 1978). However, as concerns the Cherokee medical knowledge, we were able to locate very few later studies (Irwin 1992). The most outstanding one is that performed 30 years after Mooney's—and fully based on it—by Frans Olbrechts (1899–1958), to wit, a Belgian university-trained philologist, who pursued a doctorate in anthropology under the personal supervision of Franz Boas (1858–1942). Indeed, it was Boas himself who pointed Olbrechts to Mooney's manuscript as a basis for his thesis.

Formularies represent a genre rather difficult to approach, since they usually comprise a purpose or use, a list of ingredients, and instructions to compound them and apply them to practice. As a rule, they do not bring theoretical explanations or any context whatsoever. They are meant for initiates, i.e. for individuals deeply acquainted with their meaning and intent.

This simple example conveys a fairly good idea of how incomparably more difficult it is to study formularies compiled in the past, or in cultures entirely alien to ours, as for instance, Mesopotamian, Arabic, and Latin medieval formularies. Such works may be seen as a kind of aide-memoire: barebone notes of the main aspects of prescriptions, which users compiled for some purpose of their own. Philologists, historians, archaeologists, Assyriologists, Egyptologists, Arabists, Orientalists and scholars of the medieval and early modern periods developed sophisticated methods to make sense of pharmacological knowledge in different times and places (Turner, 2014; Geller, 2015; Creager et al. 2020). Achieving an understanding of plain medical prescriptions is the last step in a long journey through the culture, environment, society, ethos, worldview, knowledge, beliefs, and practices of different peoples.

The scope of research in the history of science, technology, and medicine (HSTM) also goes further. We may shift our focus to inquire about how scholars approach their subject of study. This is to say, what are their fundamental assumptions as to the nature of science, of technology, of theory, of practice, of knowledge as such? And in the case of past or alien cultures, what is their view regarding otherness?

Ana Alfonso-Goldfarb summarized these and many more relevant aspects—not by chance, after devoting more than ten years to the study of a ninth-century Arabic formulary—as three overlapping spheres of analysis (Alfonso-Goldfarb, 2008; Alfonso-Goldfarb et al. 2013). One such sphere focuses on the epistemic aspects of scientific theories and practices, the second on the historical and social conditions that circumscribe

the construction of epistemic objects, and the third on the theoretical and methodological assumptions underlying HSTM studies. These three spheres, therefore, guide our present reflection. Our subject is not the Cherokee or their medicine, but how Western scholars first approached the medical knowledge and practices of an Amerindian people. Mooney's and Olbrecht's works and exploration of Cherokee medicinal and botanical knowledge thus appear as a significant chapter in the history of ethnosciences.

James Mooney was a self-taught ethnologist who became interested in Native American culture and language during his childhood. He worked as a journalist before joining the Bureau of American Ethnology (BAE) in 1885, a creation of the all-influential John Wesley Powell (1834–1902) and one of the main American institutions weaponized for internal colonialism. At the BAE, Mooney worked on projects related to the classification of Amerindian languages and the synonymy of tribal names. He also conducted fieldwork on the Eastern Band of Cherokee and made extensive notes about their sacred formulas. However, like many other ethnologists of his time, Mooney's focus shifted to “salvage ethnography”, i.e. the practice of documenting vanishing cultures and traditions (Brantlinger, 2003), a colonial device and a touchstone for several ethnoscience projects.

As concerns the Cherokee formulary, Mooney collected hundreds of samples, including herbarium specimens of most of the plants mentioned in the formulas. However, he never had time to organise his notes and publish the results. The same was the case of Olbrechts, who promised to publish an entire “*materia medica*” of the Cherokee (Mooney & Olbrechts, 1932, 52). As far as we could establish, it never materialized. Mooney's plant collection was first—and only—approached by David N. Cozzo for his PhD dissertation, defended in 2004 (Cozzo, 2004). Through analysis of archive manuscripts and herbarium specimens, he was able to trace down records for more than 500 plants. However, Cozzo's interest was not in Cherokee plant science, nor even in what sense Mooney and Olbrechts made of such knowledge. His aim, instead, was to gather empirical evidence to substantiate the position of his mentor, Brent Berlin, in his debate with Roy Ellen on the universality of folk systems. This is to say, on whether ethnobiological classification systems are a universal feature of human cognition or are imposed by the researcher.

Mooney arrived on the Eastern Cherokee reservation in 1887. One should remember that most of the Cherokee had been forced to migrate westward to the Indian Territory, in the 1830s, the extremely violent “Trail of Tears.” For Mooney, the population

remaining in their ancestral lands, therefore, was the most representative of the original Cherokee people (Mooney, 1888). This was the occasion in which Mooney first came upon their “sacred formulas.” He spent two further seasons in North Carolina, in 1888 and 1889, when he collected more such formulas and published his earliest observations—actually, his most remarkable writings.<sup>2</sup>

In this period, Mooney collected information about the plants the Cherokee used for food and medicine. He had recourse to local informants, including a man called A’yûn’iñ (“Swimmer”), who kept a notebook of about 240 pages, written in Cherokee characters, comprising prayers, songs, charms, and prescriptions for all sorts of everyday purposes. Mooney made a point of copying Swimmer’s notebook and found out that other medicine men also had notebooks of this kind, which he succeeded in locating.

Mooney constructed an overall epistemic framework for the Cherokee formulas through careful collection, compilation, and analysis of myths, which he compiled into an essential reading for anyone interested in the Cherokee. To his surprise, he found that the Cherokee had a religion that was as consistent and elaborated as any other. However, Mooney drew a line between Amerindian religion and Amerindian science, technology, and medicine, stating that while the former was theoretically consistent and comparable to all elaborate religions in the world, the latter was entirely worthless. He dismissed the entire botanical and medical knowledge of the Cherokee, in particular, and of all the other “Indian and uncivilized tribes in general,” stating that their doctors could not be compared to university-trained white physicians. Their knowledge of plants was limited and “very defective” vis-vis that of modern botanists (Mooney, 1890, 46).

Mooney left a world of notes at the BAE archives. Thus, Olbrechts could get a glimpse of what his predecessor intended to publish: a selection of formulas included in Swimmer’s manuscript only, 96 from a total of 137, which exclusively corresponded to medical prescriptions. These formulas Mooney had already classified, however, following a systematic “logical” order proper to the “white man point of view” (Mooney & Olbrechts, 2). Different from Mooney, Olbrechts had sound philological training and had chosen folk medicine as his subject of research. On these grounds, while always careful to honour Mooney’s work, Olbrechts could not help remarking that such classification was entirely “foreign to the Cherokee” and decreased the “value of the manuscript as an aboriginal document” (Mooney & Olbrechts, 2). Not only that, but the odd homogeneity of the collection was purely artificial, nowhere to be found in any Cherokee original document (Mooney & Olbrechts, 2). Things proved to be even

unfathomably worse. Olbrechts' first discovery filled him with horror: Mooney's Cherokee manuscripts had all but disappeared. Nevertheless, Frans Olbrechts was able to reconstruct the original Swimmer manuscript through careful comparison of notes and cross-references in Mooney's files.

The reconstructed transliterated version (FMO-1) was taken by Olbrechts with him to North Carolina in 1926-27, where he devoted much effort to acquiring sound knowledge of the Cherokee phonetics. Olbrechts then read FMO-1 aloud to a medicine man, who in turn transcribed it back into Cherokee characters (FMO-2). The Cherokee medicine man then read aloud FMO-2 and Olbrechts noted it down phonetically (FMO-3). Olbrechts observed that this process seemed "very artificial," but it was the single means available to ensure some degree of accuracy. Olbrechts had one more resource to check his final version's accuracy: the single page of the Swimmer manuscript in Cherokee characters Mooney had included as an illustration in his *Sacred Formulas of the Cherokees*. In addition, Olbrechts resorted to standard philological methods and made thorough comparisons to additional texts and copies of formulas obtained from other medical men. Some of these formulas were identical to those in the Swimmer manuscript, which led Olbrechts to conjecture that they could be "later copies or early predecessors".

We may pass over several additional pieces of criticism Olbrechts made of Mooney's skills in working with texts. More relevant is the fact that he made a point of collecting samples of all the botanical species mentioned in the manuscript, which he sent to the United States National Museum for proper identification—seemingly a task Mooney had not accomplished. Olbrechts was so impressed with the Cherokee's plant knowledge, that he promised to publish in time the entire Cherokee materia medica. As we mentioned above, he never did.

Interested as he was in folk medicine, and far from being dismissive of it, Olbrechts added what he rated to be an extensive survey of the Cherokee beliefs and practices in regard to disease and medicine. It was to be the sine qua non requisite for a proper understanding of the content of the formulas. As a function of his academic background, he was more attracted to what he could find to be common to Amerindian and Western culture than to the "primitiveness of savage peoples" (Mooney & Olbrechts, 18). Thus he begins by observing that, despite the paramount relevance of supernatural and preternatural causes in the Cherokee explanations of everyday life events, they also made room for natural agency.

The “invisible world” of Amerindian peoples is a puzzling concept very difficult for Westerners to grasp to this day. It leads, for instance, to transcending representational or epistemological differences, i.e. differences in worldviews, to posit more radically incommensurable ontological gaps, i.e. differences in the world as such—differences *an sich*, the Kantian topos is difficult to avoid. Disentangling the invisible world is one of the tasks so-called reflexive anthropologists—university-trained anthropologists originally raised in Amerindian communities—had set for themselves in Brazil. It would be unfair to expect from Olbrechts a sophisticated understanding of such a complex topic in contemporary anthropology. Yet, the close interaction between the inhabitants of the invisible and the visible worlds did not escape his attentive eye. Olbrechts understood that, to the Cherokee, as we know today of countless other native populations in the Americas, the invisible world is not inhabited by supernatural divinities to be revered as a Greek pantheon, but by other forms of existence, including the prototypes of actual animals, and the immortal part of humans and animals after their terrestrial passing (Mooney & Olbrechts, 18).

On such grounds, far from “unreasonable” or “preposterous,” Olbrechts found Cherokee medicine “remarkably logical.” The “‘primitive mind’ invariably gives proof of a most rigorous congruency and a perfect harmony in its reasoning” (Mooney & Olbrechts, 40; quotation marks in the original). Mooney, Olbrecht claimed, got it entirely wrong: treatments were never merely symptomatic, but systematically targeted the ultimate cause of disease, and mostly involved drugs, essentially of plant origin.

The case of the Sacred Formulas of the Cherokee is a remarkable occurrence in the history of ethnohistories. It provides historians with a rare opportunity to access indigenous writings directly. It also enables one to trace the history of ethnohistories through traditional sources recorded by Western scholars and amateurs during a time of colonial expansion. An important aspect to acknowledge is the diverse and intricate changing approaches to indigenous knowledge that emerged within the span of a single generation. These changes can be observed in the context of the BAE surveys led by Mooney, which aimed to comprehend the knowledge of indigenous people affected by colonial violence. Additionally, the shift in perspective is evident in the evolving Boasian context represented by the works of Olbrecht.

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<sup>1</sup> For a comprehensive history of philology as the root of contemporary humanities, see James Turner, *Philology: The Forgotten Origins of the Modern Humanities* (Princeton [NJ]: Princeton University Press, 2014).

<sup>2</sup> Including, besides SFC, “Myths of the Cherokees” and “Cherokee Theory and Practice of Medicine,” *The Journal of American Folklore* 3, no. 8 (1890): 44–50.