MAT Medicine Anthropology Theory

INTERVENTIONS

Collaboration and discord in international debates about coca chewing, 1949–1950

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Editors' note: This essay is intended to be read alongside the commentary by Rossio Motta-Ochoa (this issue).

Abstract

This essay complicates our thinking about unequal North-South 'collaborations' by considering how distinct scientific traditions, national politics, forms of racial thinking, and conditions of internal colonialism in the global South shape relations with individuals and entities based in the global North. It does this by examining conflicts between Peruvian scientists and the United Nations' Commission for the Study of the Coca Leaf, which visited Peru and Bolivia in 1949 to investigate the health effects of coca consumption on highland Indigenous populations. Sent at the Peruvian government's invitation, commission members saw themselves as conducting a field survey. However, they quickly found themselves embroiled in conflict with a Peruvian high-altitude physiologist, Carlos Monge, who sought long-term, laboratory-based collaboration. Monge's scholarship and experiments proved controversial for UN authorities because they emphasized the racial alterity of highland Indigenous peoples even as he and his peers disagreed about the health effects of coca chewing.

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Keywords

coca, high-altitude physiology, Peru, United Nations, partnership

On 12 September 1949, Peru's leading newspaper, *El Comercio*, published an interview with Dr. Howard B. Fonda, the American director of the United Nations' Commission for the Study of the Coca Leaf. Fonda and his team of collaborators had arrived in Lima a few days earlier to begin a three-month research expedition in Peru and Bolivia. They were about to find themselves, however, embroiled in a contentious debate among Peruvian scientists, politicians, and intellectuals based in the country's coastal capital regarding the benefits and harms caused by chewing coca leaves, a practice common among Indigenous people who formed the majority population in the Andean highlands. Peru had faced international pressure for decades to limit the trafficking and consumption of narcotic drugs in accordance with international agreements, many of which relied heavily on existing knowledge of opium and seemed to make assumptions about the properties of coca. The government of Peru therefore petitioned the recently formed United Nations in 1947 to send a scientific committee to the Andes to research the effects of coca leaf chewing.[1] In essence, Peruvian authorities sought clear answers as to whether coca alkaloids in their natural, raw form constituted a true health problem and a narcotic in need of regulation (J. Monge 1947).

Within Peru, there was already a lively scientific debate underway among physiologists, psychiatrists, and other scientists about the dangers of coca leaves and their relationship to the much more powerful narcotic drug derived from their alkaloids, cocaine. Indeed, in the preceding years scientists had received international funding and had begun to conduct a variety of physiological and psychological experiments on coca chewers and cocaine users in Lima's main prison and national psychiatric hospital as well as the Andean highlands. Combined with increasingly specialized chemical analyses of the leaves and research on animals, their findings led them to radically different conclusions not only about the potential dangers of coca but also about the nature and actual condition of their main consumers, Peru's highland Indigenous peoples, and their possibilities for modernization. Reflecting the country's long history of racism, inequality, and internal colonialism, which for decades had shaped the work of scientists and eugenicists based in Peru's capital, Lima, and elsewhere, one camp saw coca as a cause of poor health, limited mental capacity, and

[1] For broader histories of coca, cocaine, and international antinarcotics policies, see Gootenberg 2008 and Reiss 2014.

widespread degeneration among Indigenous people, while another saw it as a relatively benign, unique, and healthy form of adaptation to the demands of life at high altitude for a population associated closely with nature. Ironically, despite the forms of implicit racism evident in both positions, each camp saw itself as a defender of Indigenous people, interested in their uplift through scientific research and government intervention. Expressing optimism about the benefits of international collaboration in the early postwar period, scientists on both sides hoped that the UN Commission for the Study of the Coca Leaf would provide conclusive scientific findings to support their views, while also bringing much needed laboratory infrastructure and new research collaborations to Peru.[2]

Fonda's interview in *El Comercio* quickly led to questions about whether the commission had prematurely taken sides in this debate, and whether commission members could study coca consumption from an objective viewpoint. When asked whether he believed that coca chewing was harmful to the health of highland Indigenous people Fonda responded emphatically that chewing the leaves on a daily basis not only harmed their health 'but is also the cause of racial degeneration in many population nuclei, and of the decline that many indigenous and even mestizo inhabitants visibly exhibit in certain zones of Peru and Bolivia' (*El Comercio* 1949). He went on to add that he hoped the UN's field study would confirm these convictions in order to bring about the 'absolute and unerring abolition of such a pernicious habit' (*El Comercio* 1949). These views quickly infuriated one of Fonda's potential collaborators, the middle-class Peruvian physiologist Dr. Carlos Monge. Remembered today as a national scientific hero in Peru, Monge served as the director of the country's Institute of Andean Biology. Based in Lima, he would engage in a scientific crusade of sorts over the course of several years to defend the coca leaf, his own problematic vision of Indigenous society, and his claim of Peruvian expertise in conducting biological and physiological research at high altitude.

Recent critical scholarship on global health, including this series of essays, has noted the tendency of international agencies and scientists based in the global North to embrace the rhetoric of 'partnership' while carrying out research on unequal terms with their counterparts in the global South. Tracing the increased use of the term 'partnership' since the 1990s, this work has criticized the failure of such groups and individuals to acknowledge local and national experts in developing countries as legitimate and equally capable producers of scientific knowledge. In making these observations, however, scholars and activists have paid little attention to what goes on between such experts and their research subjects in those countries, and the messy ways that longer histories of racism, inequality, and internal

[2] Resolutions in the United Nations had sought to create research laboratories (Metraux 1947).

colonialism shape research in health and international partnerships or collaborations on the ground. As part of an effort to historicize the entanglements resulting from such collaborations and the earlier work of local and national scientists, this article examines Carlos Monge's research on coca and the conflicts that ensued between him and the members of the UN commission prior to its arrival in Peru, during its stay there and in Bolivia, and after its return to the United States. Sensing before its arrival in Peru that the UN commission would largely focus on identifying means to limit production, and that it would base some of its conclusions on one of its member's prior experiences researching opium, Monge successfully pressured the Peruvian government to promote its own scientists' interests by establishing a separate Peruvian Commission for the Study of the Coca Leaf (Pereyra Arroyo 1949). As its head, Monge went to great lengths to promote the work of his own institute, the Institute for Andean Biology, and draw attention away from the research of his main rival, the Peruvian psychiatrist and pharmacologist Carlos Gutiérrez-Noriega. In doing so, he entered into a series of disputes with the UN commission, which had relied heavily on Gutiérrez-Noriega's research, over how one should study coca's effects among Indigenous people.

At the heart of these conflicts were disagreements about whether highland Indigenous populations varied in fundamental ways from other human populations, whether coca use was related to their supposed development as a 'variety of the human race' as Monge and the Peruvian commission argued, and what it meant to collaborate internationally and conduct valid laboratory science in highland settings. By examining these debates in the broader context of Peru's *indigenista* movement, which spanned different political parties, this essay traces how perceptions of racial difference among various actors shaped not only understandings of addiction among Indigenous people but also disagreements about collaboration itself. Combined with problems of translation and communication as well as disagreements about the main purpose of the UN's visit, these differences of perception led multiple layers of tensions and unequal relations to come to the surface, undermining the ability of UN representatives and Peruvian scientists to work together in the interest of improving health. As a story that predates the rise of the language of 'partnership' in global health in the 1990s, it provides lessons for the complexities of current global health collaborations on the ground. In particular, it pushes us to look beyond frameworks that problematize 'partnership' merely in terms of relations between actors in the global North and their counterparts in the global South. These approaches fail to acknowledge the complexities, tensions, political differences, and inequalities within the global South's own scientific communities.

The origins of a conflict

Carlos Monge's initial interactions with the UN commission reflected the growing optimism Latin American scientists held at mid-century regarding the potential of the United Nations to further scientific research in regions commonly thought to be 'peripheral'. It also, however, reflected scientists' desire to maintain their regional autonomy and forge national scientific traditions, rather than simply having their institutions and work subsumed under new UN bodies like the World Health Organization. At the time, Latin American scientists feared that the region's needs would be overshadowed in the UN by European ones in the aftermath of World War II, and would thus receive inadequate attention. They therefore sought arrangements in which they would be recognized as authoritative experts empowered to address questions of health and development in the region (Cueto 2007).

The early actions of the United Nations Economic and Social Council supported these efforts in Latin America and elsewhere. In 1946, for example, it began exploring the possibility of funding the development of international research laboratories in parts of the world where enhanced capabilities for specialized research could yield fruitful results. Communications about these discussions at the United Nations and information about the approval of a measure to establish UN research laboratories appear in Monge's records of correspondence (Metraux 1947). As part of a community of middle- and upper-middle-class Peruvian researchers from the capital, who in previous years had secured funding from the Pan American Sanitary Bureau, the Rockefeller Foundation, and various US granting agencies, Monge saw collaborating with international agencies such as the United Nations as crucial for advancing Peruvian science and promoting, in particular, the prestige of his own work on high-altitude physiology. Indeed, as Marcos Cueto (1989) has masterfully argued, Monge sought to make high-altitude physiology a key example of Peruvian scientific excellence.

Monge deliberately positioned himself at the center of this national scientific tradition. In the years prior to the arrival of the UN commission, he had established himself as an international authority on the study of populations acclimated to life at high altitude. Reflecting a form of internal colonialism characteristic of much research carried out on Indigenous people in Peru, in which their alterity was heavily emphasized, Monge had published extensively on what he referred to as 'Andean man', the indigene whose ancestors had lived at high altitude for thousands of years, and who exhibited evidence of inherited physiological adaptation to regions where oxygen levels were low. Through agreements with mining companies and local officials, Monge organized the construction of laboratories at high altitude in Morococha (14,900 feet above sea level) and Huancayo (10,700 feet above sea level) for the specific study of 'Andean man'. In these settings, he subjected Indigenous

people to physical stress tests, measured their lung capacity and blood oxygen intake, examined their heart function, and studied how they metabolized food, among other things. While it is unclear to what degree coercion may have been involved in this process, it is not unreasonable to consider these research activities on Indigenous people through a framework of subjugation and racial othering. By seeking to delineate how 'Andean man' differed from populations living on the coast and non-Indigenous populations living in the Andes, Monge and his collaborators aimed to argue that Indigenous highland populations were uniquely adapted to their geographical location and thus constituted a 'physiological variety of the human race' (Comisión Peruana para el Estudio del Problema de la Coca 1950, 9).[3] At a time when racial claims in scientific research were coming under greater scrutiny, this argument was provocative. Fonda, the UN representative who initially spoke of racial degeneration to Peruvian journalists, would later distance himself from racial thought after being exposed to the vast inequality and poverty pervasive in the Andean highlands. He criticized Monge for calling 'Andean man' a separate race (United Nations Economic and Social Council 1950, 33–37).

For Monge, the implications of this argument were extensive and provided the means to understand Peru's social reality, the conditions under which Indigenous people lived, and the means by which their uplift might take place. The research carried out on Indigenous people, moreover, provided the reasoning for requesting further international scientific investment and collaboration. If 'Andean man' constituted a variety of the human race on the basis of physiology, then according to Monge a specialized field of high-altitude physiology should be developed and advanced in Peru to gain a greater understanding of how the body and mind of this variety functioned in situ. As a field, furthermore, high-altitude physiology held the potential not only to explain physiological differences but also the customs and living practices common among highland populations, which differed markedly from those of coastal groups. Among those practices, Monge included the chewing of coca leaves, which Indigenous people at high altitude commonly claimed gave them additional strength, helped them combat fatigue, and enabled them to work longer hours without feeling sensations of hunger. Monge proposed that in order to understand the widespread use of coca among Indigenous people, it had to be studied in relation to the specific physical demands high-altitude life placed on individuals. Their use of coca, he theorized, was a unique, benign form of environmental adaptation. Drawing intentionally or not on a longer history of racializing Andean peoples as living outside modernity, he argued that coca-leaf chewing reflected

[3] Elsewhere in his own research, Monge (1948, xi) describes such populations as a 'climato-physiological variation of the human race'. For Monge's key publications on 'Andean man', see Monge 1940, 1946, 1948. For broader studies of Monge's research in high-altitude physiology, see Cueto 1989; Lossio 2012; Murillo 2017.

'Andean man's' idealized fit in the natural world he inhabited, rather than in modern industrial society. Reforms and interventions, he believed, should account for this (C. Monge 1946).

Other Peruvian scientists based in Lima used coca consumption among Indigenous people to speak of Peru's social reality as well. Not all, however, shared Monge's views on coca, and many saw the traits and practices that Monge celebrated in highland Indigenous peoples as serious causes for concern. For the psychiatrist and pharmacologist Gutiérrez-Noriega and his collaborators, for example, coca chewing was a harmful custom that hindered the development, modernization, and incorporation of Indigenous people into the nation. Although he could not prove coca was addictive according to strict definitions of the concept, Gutiérrez-Noriega argued that it constituted, at the very least, a pernicious, frequent habit that played out like an addiction. Using Indigenous people to establish a name for himself in international science, he argued coca constituted such a widespread cultural practice that over the course of many generations it had brought about the 'backwardness' and 'degeneration' of Indigenous societies. In individual users, he claimed, it stunted intellectual abilities and mental capacity, creating a general sense of introversion, inwardness, docility, and lack of engagement with the outside world. In workers, it encouraged repetitive motions and inattention, causing injuries and the inability to carry out complex tasks. With regard to physical health, chewing the leaves exacerbated conditions of malnutrition by dulling hunger pangs and thus making hunger tolerable. When consumed by children it hindered physical development. Having carried out psychological and psychiatric tests on prisoners and psychiatric patients as well as Indigenous and Mestizo peasants, mineworkers, and shepherds in the Mantaro Valley, east of Lima in the Central Highlands, Gutiérrez-Noriega argued that coca chewing was responsible for the creation of entire populations who were unfit and unsuitable for the demands of modern life (Gutiérrez-Noriega 1944a, 1944b, 1944c, 1947; Gutiérrez-Noriega and Zapata Ortiz 1947).[4]

Although they differed in terms of political party affiliation, both Monge and Gutiérrez-Noriega saw themselves as *indigenistas* (indigenists), members of an intellectual, political, artistic, and, by the late 1940s, increasingly scientific movement that sought to vindicate the country's Indigenous population and transform their position in society by combating the forms of exploitation to which they had been subjected for centuries. According to Jorge Coronado (2009), who has written about the early phases of *indigenismo* (indigenism), this movement was largely a movement about representation in that it involved middle-class and

[4] It is worth noting that Gutiérrez-Noriega also conducted coca and cocaine experiments on animals, especially birds and dogs.

upper-middle-class urban populations speaking for the country's impoverished Indigenous people and their needs, rather than allowing them to lead the movement and speak for themselves. This characterization is certainly true for *indigenismo* as it developed in coastal Lima, where Monge and Gutiérrez-Noriega resided, although Zoila Mendoza (2008) has traced greater popular involvement in the movement's development in Cuzco. Moreover, *indigenismo* was a movement largely concerned with modernization and technology, and one that promoted conflicting biological and cultural ideas of racial difference and fitness. To be an *indigenista* was not to be free of racial thinking. As Coronado (2009) notes, *indigenistas* sought to transform the Andes and bring Indigenous communities into modern life, yet Indigenous people also represented in such rhetoric the fundamentally different, oppositional subjects against which the identities of modern, urban, coastal Peruvians had been developed. The forms of intervention proposed for modernizing Indigenous life were thus at times radical, even though many *indigenistas* stressed the need to preserve and celebrate certain aspects of Indigenous culture. Indigenous customs such as coca-leaf chewing thus could sometimes constitute benign traditions worthy of celebration and preservation, while at other times they could be seen as practices detrimental to racial fitness that required elimination.

Speaking before the United Nations in 1947, Peru's delegate Juvenal Monge, the brother of Carlos Monge, noted that the medical and scientific questions surrounding coca were linked to broader concerns about the place of Indigenous people in a modernizing country. According to the standards of Peruvian society, the Indigenous person 'appears denigrated and degraded since he lives side by side under infamous living conditions, with illiteracy, with alcoholism, and ultimately, with a culture and spirit that, compared to others, have not achieved an authentic and genuine integration into the nation to which our country aspires' (J. Monge 1947, 3). Similar concerns were echoed at the Second Indigenista Conference of the Americas in Cuzco in 1948, where coca-leaf chewing became a subject of heated debate alongside the consumption of alcohol. There, the provincial council of Cajabamba voted for the absolute prohibition of coca, *chicha* (corn beer), *aguardiente* (brandy) and alcohol, arguing that they caused 'the terrible degeneration of the race in the Americas' and that 'it is the duty of the Indigenista Conference of the Americas in Cuzco to save the aboriginal race from such a grave ill' (Guevara 1948, 1). When the UN commissioners arrived in Peru under Fonda's leadership in 1949, *indigenista* leaders and scientists affiliated with the movement thus sharply disagreed as to what should be done about coca and its use by Andean peoples. Their divergent views remained similarly bound by the logics of racial thinking and practices of internal colonialism.

'Collaboration' and the UN commission

The UN commission that arrived in Peru in September 1949, and that became entangled in debates about coca and Indigenous racial fitness, reflected in its work a limited vision of what international scientific collaboration might entail. Iruka Okeke's essay in this special section can help situate this historically. Okeke has sought to distinguish 'partnership', frequently used today to describe transnational global health work, from earlier, more traditional forms of collaboration (this issue). Okeke observes that while 'partnership' is organized around the frequently unattainable, utopian ideal of international and local experts working together as partners in ways that benefit one another and gestures rhetorically toward long-term relationships of interdependence, traditional collaboration does not depend on the same metaphors of union, contractual bond, and commitment. Nevertheless, collaboration, like 'partnership', is also 'fraught with complications arising from inequities' when organized as North–South relationships (Okeke this issue). In the case of coca research at mid-century, the UN approach bore none of the features of what has come to be known as 'partnership'. Instead, it privileged the authority of foreign experts over their Peruvian counterparts without making any pretenses of working together with Peruvians on mutually beneficial terms over an extended period. Moreover, by seeking to speak for and critique national scientific traditions following a single visit to the Andean region, the commission prompted outcry among several of Peru's leading scientists.

The composition of the UN commission reflected the organization's views on multidisciplinary research and its assumptions about local and national expertise. The head of the commission, the American Dr. Howard Fonda, was a vice president of Burroughs Wellcome and Co. and also served as vice president of the American Association of Pharmacists. The second member, Dr. Marcel Granier-Doyeux, was a Venezuelan professor of pharmacy and chemistry at the Universidad Central de Venezuela. Professor Federico Verzar, the third member, was a Hungarian specialist in high-altitude physiology who held a professorship in physiology at a Swiss university. He had authored many works on physiology, metabolism, and hormones. Finally, the fourth member, Jean Philippe Razet, was a Frenchman who served as inspector general of the French Ministry of Agriculture, and who had worked for many years on the League of Nation's Opium Commission (*El Comercio* 1949). Although I have been unable to identify the process by which the United Nations appointed these specialists, the resulting commission clearly claimed as its own the scientific approaches Peruvians had adopted in the study of coca. It reduced Peruvian scientists to the positions of informants and correspondents, rather than full collaborators, while prioritizing the United Nations' concerns about narcotics enforcement over local and national concerns. It was, moreover, a commission that portrayed itself as the embodiment of scientific expertise on narcotics and other drugs while facing immense pressure from particular UN

member nations, such as the United States, which had for years expressed concern about the circulation of cocaine.

Although disagreements eventually came to focus on the use of race as a category in coca science, initial conflicts with the UN commission stemmed from divergent understandings of how the members should go about their work in Peru. The Peruvian request sent to the United Nations called for an '*estudio científico en el terreno*', or scientific study on the ground (Monge Medrano 1950). The authors of the request, among them Carlos Monge, envisioned a set of rigorous laboratory experiments carried out by a team of international scientists in laboratories located in the Andean highlands, which would serve as the foundation for further international collaboration. Indeed, Monge wrote to the commission prior to its arrival to offer them the use of his institute's high-altitude laboratories in Morococha and Huancayo. Translators at the United Nations, however, mistranslated '*estudio científico en el terreno*' in the original document as 'field survey', leading those who participated in the expedition to have a radically different understanding of the work they should undertake (Monge Medrano 1950). Rather than conduct laboratory research at high altitude, the commission engaged in direct observation at field sites and interviewed a variety of doctors, pharmacists, scientists, government officials, members of the military, workers, union representatives, teachers, missionaries, peasants, coca cultivators, mine owners, and large landowners. Not unlike the practitioners of much-critiqued 'parachute' or 'helicopter' research in contemporary global health work (Aizenman 2016; Heymann et al. 2016), UN commissioners saw themselves as engaging in a short-term information gathering and fact-finding expedition, rather than in a long-term project to collaborate with local and national experts and carry out extensive scientific research on the ground (United Nations Economic and Social Council 1950, 7–8).

The UN commission traveled to various regions in Peru and Bolivia over a period of almost three months between September and early December 1949. They extended their stay after receiving additional funds to travel to Bolivia, and then returned to Lima for a few days before traveling back to the United States. Throughout their time in the Andes, Carlos Monge sought to host meetings with them in Lima and offered to have them tour the Institute for Andean Biology's laboratories. Furthermore, as head of the newly formed Peruvian Commission for the Study of the Coca Leaf, he requested and successfully held a meeting of the two commissions together during the UN commission's last days in Lima (Comisión Peruana para el Estudio del Problema de la Coca 1949; Monge Medrano 1949). Finally, Monge also organized an international conference on high-altitude physiology in Lima and invited the UN Commission to attend. Given that only two of the commission members accepted the invitation, Monge ultimately felt snubbed and disregarded by the UN commission (Fonda 1949), and he later accused them of disregarding the value of local and national scientific expertise.

Although the UN commission did not carry out scientific research on site and faced criticism, its members did draw on existing scientific scholarship on coca and cocaine, which went well beyond the preferred works of Monge and his collaborators. Seeing this as a gesture that acknowledged local and regional expertise, their final report in fact included an exhaustive annotated bibliography of published and unpublished research carried out before 1950 in Peru and Bolivia. They quoted several scientists, among them Gutiérrez-Noriega, extensively in the body of the report. While Monge may have felt disregarded, the commission's method for reaching medical conclusions about the health and psychological effects of coca seems to have been based on comparing findings from the existing scientific literature with anecdotal evidence gathered during interviews with hospital physicians, scientists, large landowners, and others. The rigor of this approach may have been questionable, but the commission used it to assess whether the effects of coca that Peruvian and Bolivian scientists identified actually played out on the ground, and whether there was a difference between popular perceptions of the dangers of coca and medical-scientific perceptions (United Nations Economic and Social Council 1950).

In their final report issued in May 1950, the commission embraced the concerns of *indigenistas*, who called for the urgent transformation of life in the Andes, while simultaneously engaging and supporting international calls to limit coca trafficking. Their conclusions, moreover, infuriated Monge by falling somewhere between his views and those of Gutiérrez-Noriega. Like Monge, the commission members concluded that coca was merely a habit-forming stimulant, not a narcotic drug per se. However, much like Gutiérrez-Noriega they suggested that in the case of some users, coca-leaf chewing could approximate an addiction. The commission, furthermore, noted that the effects produced by chewing coca leaves stemmed from the presence, however small, of cocaine in the leaves (United Nations Economic and Social Council 1950, 93).

The commission also distanced itself from Fonda's initial remarks to *El Comercio* about racial degeneration, seeking in this way to appease those critical of scientific racism in the United Nations and in Peru's press. Although impossible to explain with certainty given the paucity of sources, this is perhaps a result of their own first-hand observations of the harsh conditions of daily life for Indigenous people in the highlands. Commission members disagreed with Gutiérrez-Noriega, who had characterized Indigenous highlanders as racially degenerate and in need of drastic reform. While not fully rejecting race as a category, they wrote in their final report, 'The Commission has the impression that no signs of racial degeneration can be demonstrated among the indigenous population of the Altiplano and the Sierra, especially none that are related to coca chewing. If there were any such signs, they are much more likely to be due to syphilis, alcoholism or chronic starvation' (United Nations Economic and Social Council 1950, 30). They argued, moreover, that coca chewing was 'a

consequence of the social and economic conditions under which large sections of the population of Peru and Bolivia are living' (United Nations Economic and Social Council 1950, 93). In particular, they stressed the vicious cycle of poverty and hunger that led Indigenous people to consume coca, which ultimately exacerbated malnutrition by dulling hunger pangs and enabling them to continue working without food. Acknowledging the lack of government infrastructure investment in the highlands, they noted that these problems could be solved by substantial efforts to improve food availability, hygiene, and education in Indigenous villages (United Nations Economic and Social Council 1950, 95).

The commission did, however, embrace several of Gutiérrez-Noriega's controversial claims about the negative effects of coca use. Most importantly, they warned that the leaves could cause in the individual chewer 'undesirable changes of an intellectual and moral character', which hindered the chewer's chances of 'obtaining a higher social standard' (United Nations Economic and Social Council 1950, 93). They also noted that coca chewing 'reduced the economic yield of productive work, and therefore maintains a low economic standard of life' (United Nations Economic and Social Council 1950). In this way, like Gutiérrez-Noriega, the commission saw coca as a clear impediment to modernization of the Andes and efforts to bring about the uplift of Indigenous populations. To solve these matters, the commission recommended the limitation and gradual elimination of coca production, in addition to social and economic reforms.

In stating these conclusions, the commission went against the approach Monge had urged them to advocate on his behalf, which celebrated coca as a benign, necessary form of adaptation to life at high altitude. Furthermore, their treatment of Monge's high-altitude physiological approach caused outrage amongst members of the Peruvian Commission for the Study of the Coca Leaf, who perceived the UN commission's behavior as arrogant and part of a pattern of disregard for national scientific expertise. In the final report, the commission devoted an entire section to questioning the utility of Monge's philosophy and method for studying 'Andean man' and the effects of coca. They questioned, in particular, the premise underlying Monge's laboratory research that 'Andean man' constituted a 'physiological variety of the human race' that should be studied on its own terms and in its own environmental setting. Perhaps once again facing an issue of translation and mistranslation – Monge was never fully clear by what he meant by '*raza*', or race – the commission members took this to mean that Andean man constituted a different and unique race, a belief that seemed outdated to them and reminiscent of the scientific racism of previous decades. Deploying a scientific view of race of their own that assumed white men to be normative, they observed that 'There is as yet no evidence which compels the belief that [Andean man] is racially different in his physiological behaviour from the white man' (United Nations Economic and Social Council 1950, 34). Rather, 'Andean man' was simply 'fully acclimatized' and 'acquired a normal working capacity at high altitude' (United Nations

Economic and Social Council 1950, 35). This made him no different from others. According to the commission, 'Not only the Indian is adapted but the *mestizo* and the white man, who do not chew [coca], adapt themselves fully to high altitudes. Even the highest athletic prowess is reported' (United Nations Economic and Social Council 1950, 36). In this way, Fonda and his colleagues appeared to discount Peruvian science and the Peruvian scientists with whom they had collaborated. In the process, they also rejected much of the racialized language that they, too, as UN representatives had used to describe Peru's Indigenous people upon their arrival in the country.

In making these assertions, the committee also argued that Monge had not provided persuasive evidence demonstrating that the physiology of 'Andean man' responded to coca in a truly distinct manner. In their view, the widespread use of coca among highlanders was based not on a longer process of inherited physiological adaptation, need, and strategic use of environmental resources. Rather, it was a cultural practice and a custom largely connected to conditions of malnourishment and exploitation: 'the difficulties of life of the high Andean man, which facilitate his habit for a drug that deadens his sufferings' (United Nations Economic and Social Council 1950, 37). In making this claim, the commission in fact implied that by focusing on biological notions of race, Peruvian scientific research in high-altitude physiology detracted from more urgent and pressing concerns linked to what we would now characterize as internal colonialism, pervasive racism, and extreme inequality.

Conclusion

In Peru today, Carlos Monge is celebrated as a national scientific hero, a figure who made a name internationally for Peruvian science at mid-century. Monge's archive of personal correspondence, however, reveals that this process was not without fraught moments and failed efforts at collaboration. In particular, his conflicts with the United Nations persisted in the years following the UN Commission for the Study of the Coca Leaf's visit to Peru. These conflicts resulted in numerous reports challenging the commission's work as well as proposals before the United Nations to demand that a new commission be sent to conduct laboratory-based scientific research on coca-leaf chewing in the Andes. Ultimately, these disputes had less to do with the virtues and vices of coca than they did with seeking recognition for Peruvian scientists as experts and worthwhile collaborators. Due to initial misunderstandings and the complications of navigating both Peruvian racial politics and *indigenista* scientific disputes, Fonda and his colleagues treated their Peruvian counterparts as figures who had little to offer beyond their published work, which the commission only engaged selectively. At the same time, records indicate that Monge also did little to take seriously their concerns about treating 'Andean man' as a racialized other. Instead, he

continued for years to conduct research rooted in unacknowledged logics and practices of internal colonialism that emphasized Indigenous alterity.

Historical cases like the international disagreements over coca research in the Peruvian Andes can help us shed light on the tangled, complicated processes by which unequal collaboration came into being during periods prior to the rise of modern global health. As a descriptor of a range of relationships, some of which would eventually come to be known and celebrated as 'partnership', collaboration was ultimately hindered in Peru by more than just the inequalities that divided scientists in the global North from their counterparts in the global South. Indeed, practices and questions at the heart of how local, national, and regional scientific cultures themselves sought to research, understand, and transform their own societies also served to impede efforts to collaborate. Acknowledging the complex historical processes behind these unequal relations hopefully can help us to see the challenges of unequal 'partnerships' more effectively in the present.

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