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Using the anniversary of a major scientific experiment as anchor for a campaign promoting scientific knowledge and tourism in a far-flung location seems a straightforward idea. When it first emerged in a conversation I had in November 2007 with José Cassandra, the regional president of Príncipe — a small Atlantic island just off the West African coast and a part of the Portuguese colonial empire from the 15th century until 1974 — I didn’t foresee how complex the project might become.

I had been conducting fieldwork in São Tomé and Príncipe (STP), the micro-island state of which Príncipe is now an autonomous region, when I came across a small marble plaque in the Roça Sundy, a sizeable ex-colonial plantation. It marks the spot where, in 1919, the British astrophysicist Sir Arthur Eddington proved Einstein’s Theory of General Relativity. Eddington’s spectacular discovery hurtled Príncipe briefly into the scientific limelight. From March to June 1919 Eddington led an expedition to this remote island, sponsored by the Royal Astronomical Society, to observe a total solar eclipse. The observations made — both in Príncipe and in the Brazilian town of Sobral to which a parallel expedition team had been sent — helped to prove ideas put forward by Albert Einstein. Einstein had predicted that light would be bent by objects of great mass, such as the sun — a prediction that arises from his now well-known theory of general relativity. Today Príncipe’s role as the setting for one of the most significant experiments in the history of 20th-century physics is obscure, but not forgotten.

My original research dealt with something quite different, however, namely people’s expectations of potential oil resources in STP’s offshore waters, which could turn its inhabitants into millionaires overnight (Weszkalnys 2008). Speculations about STP’s oil gained force in 1997. Twelve years, two bidding rounds, several signed and subsequently cancelled agreements, a test drilling, a legal regulatory framework, and much technical assistance later, oil has yet to be extracted from the islands’ waters. My fieldwork focused primarily on the larger island of São Tomé and the capital where all the major state administration, international organizations and infrastructures are concentrated. Much of the rest of the island, in particular the former plantations — which since the political abertura (‘opening’) of the early 1990s have been structurally adjusted and divided up between largely impoverished farmers — seems marginalized. This observation is even more true for Príncipe, São Tomé’s sister island, located about 140 kilometres to the north and home to 6000 people, barely 5% of the country’s population. Connected to São Tomé by irregular ships and a twice-a-week flight, Príncipe feels isolated and far removed from the locus of power and influence.

On 29 May 2009, Príncipe saw the celebration of the 90th anniversary of the eclipse expedition, an event in which I participated as part of a team from the Royal Astronomical Society. British, Portuguese and Brazilian scientific delegations, together with nearly a hundred local dignitaries and residents, gathered in Roça Sundy, with its derelict hospital and decaying master building (now supposedly serving as the residence of the president of the Republic on his visits to the island). About 300 people still live in...
Sundy today, in what were once referred to as *senzalas*, the rows of houses for the former plantation workers. This was the climax of a week of lectures, media reports and events held in Lisbon, in São Tomé and in Santo António, Príncipe’s sleepy capital. There was music, dance and food, and President Cassandra unveiled an interpretative plaque that had been shipped over from Britain.

My focus in this article is both ethnographic and methodological. First, sites of scientific knowledge production, even a purpose-built laboratory, are never quite as neutral as they are made out to be (Latour and Woolgar 1996, Schaffer 2007). They contain an array of discursive and material interactions, which add to their frequently politicized and contested nature. Príncipe is a case in point, with a ‘diplomatic contest’ unfolding around the eclipse commemoration. At the same time, the establishment of cultural heritage is often accompanied by a politics of memory that encourages or enforces a forgetting of troubling aspects of the (post)-colonial past (Rowlands and de Jong 2007). Here I seek to probe into what gets excluded from a commemorative event such as the anniversary celebration of the eclipse expedition, and the writing of scientific history.

My second point is methodological, in that I suggest that events such as the eclipse commemoration can open up new anthropological insights. As anthropologists we are well accustomed to exploiting specific ethnographic moments and events – a ritual, a celebration, etc. – for their heightened symbolic content, as particularly legible cultural texts. However, the point I want to make about the eclipse commemoration is not that it made visible or observable processes that would usually remain obscured. Rather the event is methodologically interesting because it is unique and atypical, involving elements, groups of people and things that would not otherwise come together. Such an event, I argue, affords ethnographic insights that anthropologists should not dismiss.  

**Post-colonial ambiguities**

Soon after returning to the UK from fieldwork, I began to make first enquiries into possible sponsorship for a commemoration of Eddington’s expedition. Around this time I was contacted by Richard Ellis, a British astronomer at Oxford who (like Eddington once) had previously held the Plumian Professorship at Cambridge, and was keen to embark on a personal pilgrimage to Príncipe. Over the months Richard and I firmly up plans to organize a 90th anniversary commemoration, which would coincide with the International Year of Astronomy (IYA).

In September 2008 we presented the project to a series of Santomean officials. My local ‘connections’ and our affiliation to renowned British universities won us an audience with the president of the Republic of STP and an appearance on national television. We found an eager collaborator in Cassandra, the incumbent and extremely popular regional president whose continuing residence in Príncipe (rather than on the larger island of São Tomé) was, in the eyes of many people I talked to, evidence of his patriotism and devotion to the island. The idea to turn the eclipse expedition anniversary into an event and to install an informative plaque on the site where Eddington made his observations chimed with efforts to promote ecological and cultural tourism on the islands. Additional collaborators were found in Pedro Ferreira and Richard Massey at Oxford and Edinburgh, and funding was secured from the Royal Astronomical Society (RAS) and the International Astronomical Union (IAU), who granted the proposed commemoration ‘special project’ status within the IYA2009.

In the short 18-month period leading up to it, the eclipse commemoration became a contested event. It emerged that a Portuguese team had been developing similar plans. While the Portuguese initially appeared to have a more direct contact with their Santomean counterparts, we soon managed to achieve a degree of co-operation rather than duplication: they would be responsible for most of the logistics and celebrations in both Lisbon and STP; we would contribute with a talk by Pedro Ferreira, illustrative posters and a larger interpretative plaque. In the end, the RAS and IAU dispatched a team of three people, the Lisbon Geographical Society mustered a team of eight, and the Portuguese NGO Scientists in the World was represented by three members. During a week in STP, Portuguese and Brazilian scientists gave talks on astronomy, and Scientists in the World installed a small exhibition. We were received by Portuguese and Brazilian diplomats, who also wished to attend the celebrations. As we arrived in STP with our 50kg brushed-steel plaque, which we had managed to get on the plane only because President Cassandra put in a word for us at the STP Airways check-in, we learned that ours would not be the only one. There would be two additional, smaller plaques sponsored by the local representation of the Order of Malta, which had also arranged for the entire site to be embellished with flowerbeds and tiled paths.

The eclipse commemoration began to take the air of a post-colonial diplomatic venture. The event entailed what is a staple topic of Santomean conversations: the country’s apparent receptiveness not so much to geopolitical power play as to all kinds of real and not-so-real projects, which often take the form of business ventures between the state and third parties. Whether it is ‘new’ but inadequate generators for the country’s dilapidated power station, a fleet of fishing trawlers now dumped off the coast, a closed-down fish cannery, or a Free Trade Zone that remains advertised on billboards just outside the airport as eternally in the ‘future’, STP’s landscape is littered with the traces of abandoned projects promising development. Even if these projects rarely achieve their stated outcomes, however, they cannot simply be seen as development failures. One
1. I am extremely grateful to Richard Ellis, Pedro Ferreira and Richard Massey, who worked enthusiastically and tirelessly to make this project happen. They made it an extremely rich interdisciplinary and personal experience. I also wish to thank the Royal Astronomical Society and the Lowell Satter, Atonomy Union as well as Rombout Swanborn and Africa’s Eden for their generous funding of our expedition. Research for this paper benefited from conversations with Pedro Ferreira, Nicky Reeves and Simon de Redder.

2. Anthropologists have problematized science in a number of ways (see, e.g., Ferguson 1986). My discussion here is inspired by conversations with Andrew Barry about events and experimental moments (see also Barry 2008).

3. Geopolitics play out, of course, in relation to the country’s parative oil assets, but this discussion is beyond the scope of this article.

4. There are numerous disputed ‘minic’ Orders of Malta. My intention here is not to analyse this phenomenon (others have done so in much more detail, e.g. Hoegen Dijkhoff 2006) or to take sides in the dispute, to either confirm or question the legitimacy of what was introduced to us as the Santomean representation of the Order of Malta.

5. For a thorough discussion of the issue of Portuguese involvement and the reception of the Theory of General Relativity in Portugal, see Mota et al. (2009).

6. Personal communications with Katrina Simões and Matthew Stanley.


8. For Cabdy’s these issues matter, as renewed suspicions have emerged since 2000 that slave labour may be used in its cocoa plantations, this time in Côte d’Ivoire. Cabdy’s now ensures an ethical side through its Green & Black’s brand, while the chocolate industry more generally has struggled to develop a viable fair trade certification (Chatterjee and Elias 2008).

9. It is too early to assess how Eddington’s expedition and discovery will be integrated into STP’s national history. Before leaving the country in June 2009, I set up a working group at the National Historical Museum, discussing the possibilities for integrating references to the can only guess that many of them were never meant to work out in the first place. STP is impossible to comprehend without taking into account the rumours surrounding such projects and their actual and alleged beneficiaries.

Consider, then, the suspicions whispered to us as if they were important pieces of secret intelligence, which implied that the Santomean Order of Malta was but a rogue offshoot of the internationally recognized real Order of Malta. Indeed, when we sat down together to run through the texts for our respective plaques, the Order’s local representative, an exuberant Belgian, explained to us the complicated history of two competing Orders of Malta, with one (the Catholic) disputing the legitimacy of the other (the ecumenical). Apparently STP was one of very few countries in the world that recognized the ecumenical Order, hence his willingness to contribute to the embellishment of a historical site. As we went to the port on the day our plaque was to be shipped from São Tomé to Príncipe, we met our Belgian friend there: sure enough, he also owned one of the ships that transported goods and people between the two islands.

The suspicions voiced regarding the illegitimacy of the local Order of Malta are ethnographically interesting: they formed part of the Santomean form of sociality that revolves around the sharing and passing on of rumours. More importantly, I want to offer them as a mirrör in which to inspect, in critical anthropological fashion, the supposed legitimacy of the other parties involved in the commemoration, including our own.

In a sense, our RAS/IAU delegation came to the celebrations with a proprietary conceit of sorts, for our sponsors had also sponsored the original expedition. We all had personal motivations for our participation and valued the event differently: as a worthwhile project furthering the public understanding of science (which has found considerable utility in Santomé and Príncipe, a West African school with no research into STP), an opportunity to explore Portuguese ex-colonial history, or as a way of repaying some of the enormous debts of gratitude incurred during fieldwork. Alongside this ran a sense of scientific internationalism, perhaps not unlike that which had driven Eddington (and about which I will have to say more in a moment) and perhaps helped by the fact that our ‘British’ team was really a multinational British-Portuguese-German venture.

From a Portuguese perspective, however, we might easily have seemed to benefit unduly by walking in on what had been an existing Lusophone project. Twenty years earlier the Lisbon Geographical Society had instigated a first commemoration of the eclipse expedition in Príncipe, initiated by one of its members, then ambassador in STP, during which the existing marble plaque was installed. In the 2009 repeat of this, the Society was obviously putting in a huge organizational effort. The week of celebrations started off with a conference held in the dignified setting of the Lisbon Geographical Society, in the presence of President Cassandra and a series of Portuguese and Brazilian speakers. We were shown a brief film clip from the 1989 commemoration, which had been a smaller but noteworthy affair. Now, it was proclaimed that two letters had been unearthed in the Society’s archives which confirmed its essential role as facilitator of the original expedition. Sent by the Royal Astronomical Society in 1917, the letters enquired about the climatic and geographical conditions in Príncipe in preparation for the British expedition.

Portuguese involvement in the celebrations appeared to be more than a post-colonial hangover. In his concluding remarks to the opening ceremony, the Portuguese Minister for Science noted a certain irony: was this event an attempt to assert Portugal’s agency in this scientific discovery – retrospectively or prospectively – or, more generally, to improve Portugal’s position in the world of science?

Indeed, official Portuguese interest in the 1919 eclipse expedition seems to have been minimal (Mota et al. 2009). Although the Portuguese government expressed its support, the Portuguese Astronomical Society remained, for various reasons, almost completely uninvolved. At the time of the British appeals for support, Portugal found itself in political turmoil, having just passed through the vagaries of the First World War and a domestic revolution that brought a temporary re-establishment of the monarchy at the beginning of 1919. This may explain the circumstances that led to the relative lack of participation by the Portuguese state and scientific institutions at the time.

So what and whom were we celebrating on that day in May 2009? Lest it be assumed that the commemoration was hijacked entirely by foreign interests, there was genuine local interest, as much as can be reasonably expected from a microstate of 170,000 people. A Santomean literary scholar at the University of Lisbon, Inocência Mata, had made earlier attempts to publicize Príncipe’s role in the history of science, noting her compatriots’ indifference to the matter (Mata 2008). The talks this time were held in front of sizable audiences in the Portuguese cultural centre and the Polytech, the only state-run institute for higher education. Our contact there was professor of physics Manuel Penhor, who in the weeks running up to the event had toured local secondary schools with a specially prepared poster. This ensured some degree of public awareness of an event of which, as I understood from conversations with Santomean friends, people had been largely unaware (despite the perhaps less publicized 1989 commemoration). And when the members of the Portuguese NGO Scientists in the World arrived with their school-based outreach work, both pupils and especially teachers were eager to take advantage of this rare opportunity to update their training, which often does not go much beyond level B1.

Cassandra had ensured that the celebration in SUNDY would be a success by transporting nearly a hundred people, food and a local dance group over the washed-out dirt road to the plantation. In the context of upcoming regional presidential elections, scheduled for 2010, the celebration of Einstein, Eddington and the eclipse expedition offered an opportunity for Cassandra to display his remarkable capacity to tap international resources. The SUNDY community had put on their own music and dance programme, it was explained to us, in order to display their joy to their foreign visitors. A young man with a leading role in a local community group we had met on our visit to SUNDY the previous year assured me that the community would gladly assume responsibility for looking after the new tourist attraction. A small group of girls huddled nearby, whom I encouraged to take a look at the new plaques, informed me that this was only for brancos (‘whites’) and that a guard had threatened to beat them up should they come too close. I was left hoping that this would be only a temporary situation, charitably interpreted as an expression of respect for the president and his diplomatic guests on this special day.

The celebration happened to fall in a festive week in the local calendar, including Africa Day and Children’s Day, making it all the more memorable. It seemed to confer a rare sense of importance and a fragile hope that, as Cassandra promised in a celebratory speech, SUNDY would be turned into a centre of science and education on the island. Yet amid all the diplomacy, the speeches on Einstein, Eddington and gravitational lensing, the handing round of telescopes among excited children in SUNDY, allowing them a closer look at the stars above their home that had once helped a British astrophysicist to fame, there remained, at least in my perception, an important lacuna at the heart of our celebrations.
Cultural histories

Eclipse expeditions of the colonial era may be considered imperial endeavours pursued by others (Pang 2002, Schaffer 2007). The Principe expedition was somewhat unusual in its relation to such colonial ventures. An eclipse expedition to prove Einstein’s theory had been long in the making. It was delayed by the outbreak of the war, which made the project both logistically and ideologically difficult. Eddington’s support for the German-Jewish scientist Einstein bore him personal and professional risks – not only because of the novelty of Einstein’s ideas, but also because of his nationality (Stanley 2007). In a climate of pronounced anti-German sentiment among his British colleagues, Eddington had vigorously championed Einstein throughout the First World War, appealing to scientific neutrality and internationalism. This aspect of Eddington’s scientific pursuits was highlighted for a British audience in a BBC dramatization, broadcast in December 2008, on the relation between the two scientists, cultivating in the eclipse expedition and the discovery. To Eddington, the expedition was to prove both a scientific and an ethical truth.

Eddington was born and raised a Quaker, and he saw his participation in the expedition as a service equivalent to the ‘adventures’ of many of his fellow Quakers who participated, for example, in relief work in Germany during and after the war (Stanley 2007). More on scientific than on ideological grounds, he found important support in his friend Frank Dyson, at that time Astronomer Royal. Using his connections to the British Admiralty, Dyson helped Eddington gain exemption from conscription in order to pursue his duties to science (rather than his pacifist convictions).

Thus Eddington’s project was not just a scientific endeavour; at this particular historical juncture, it was also a political one. But as a site for a British scientific expedition, that was precisely the point. In 1908, the time of Eddington’s expedition, Principe formed part of Portuguese colonial territory and, together with its sister island São Tomé, was the world’s leading cocoa producer. In 1905 the islands became the focus of an international controversy regarding the alleged continued use of slave labour on Portuguese plantations that pitted commercial interests against ethical concerns, and eventually resulted in the boycott of cocoa from São Tomé and Principe.

The islands’ economic success had been achieved by a large, steady labour force recruited primarily from Angola, Cape Verde and Mozambique, with at least 4000 people brought in every year (Satre 2002). The abolition of slavery in the second half of the 19th century would have threatened this success, had it not been for the passing of a decree in 1899, the stated aim of which was to ‘civilize’ the ‘barbaric’ population of freed slaves by obliging them to work, and the introduction of an alternative system, in the Portuguese as in other colonies, of so-called contract labour. The plight of the contratados and servízios was brought to the attention of the Anglo-American public by the young British journalist Henry Nevinson. Nevinson had travelled to Angola and São Tomé in 1904-05 on an assignment from Harpers’ Monthly magazine. His subsequent articles and his book A modern slavery (1906) appeared to confirm rumours about the persistence of slavery-like conditions in the Portuguese plantations.

Nevinson’s allegations had repercussions, especially for the British chocolate manufacturer Cadbury Brothers, which sourced cocoa from São Tomé and Principe. Cadbury’s was one of three major Quaker-owned companies dominating the British cocoa industry at the turn of the 20th century. The company was well known for its promotion of labour ethics, championing the welfare of its employees, for example, through the construction of the exemplary workers’ village of Bournville, modelled on the principles of the Garden City movement. Moreover the Quakers, known as the ‘Society of Friends’, had been very active in the anti-slavery movement. The allegations thus presented a particularly delicate problem for the company’s reputation.

By the time of Nevinson’s allegations, Cadbury’s had commissioned Joseph Burtt, also a Quaker, to travel to West Africa to make enquiries. Burtt’s report was made public in 1908 – seven years after Cadbury had first been made aware of slavery on the islands. In September 1908 the Evening Standard published an article accusing Cadbury’s of deliberately ignoring the situation on the Portuguese plantations (Grant 2005). The company eventually vowed to boycott cocoa from São Tomé and Principe until death rates among workers declined. In 1917, annual mortality among the islands’ labourers was announced to have fallen to 5 percent, although real numbers were quickly revealed to be closer to 10 per cent (Satre 2005). While the British Foreign Office seemingly turned a blind eye to such revelations (the First World War had shifted British attention elsewhere, particularly to the situation in the German colonies), Cadbury’s announced it would carry on with the boycott. It began to draw its supply from the Gold Coast, where cocoa was produced on individual, native-owned farms. Colonial fortunes were rapidly shifting: between 1921 and 1954, the labour force in São Tomé and Principe dropped from 38,000 to 17,000.

How did Eddington, Plummeran Professor of Astronomy and Experimental Philosophy at Trinity College, director of the Cambridge Observatory and, importantly, a Quaker, react to the prospect of travelling to this controversial, isolated outpost of another nation’s empire? I hoped to find some answers to this question in Eddington’s letters from the trip to his mother and sister, which are preserved in the Wren Library of Trinity College. The letters give a very candid impression of the problems and pleasures of his year-long sojourn – his diet, his food, his food, the food, his food, the food....
Fig. 5. Anniversary postage stamps issued by STP in 2009, commemorating the eclipse expedition.


A scientific and cultural experiment

I had secretly hoped to find in Eddington’s letters comments on the circumstances and people he encountered in Principe – a sense of place or, more to the point, some ‘social’ detail with which to flesh out the scientific history of the expedition. In their absence, I find myself continually returning to the possibility that it was Eddington – and not simply those who subsequently wrote about him and the expedition – who had carefully edited his story, anxious not to upset a fragile relationship with his hosts. There appears to be no explicit reference to the geopolitical context of the expedition in the archival record, apart from the reluctant support I noted above. The expert interlocutors I consulted in writing this article found nothing remarkable about Eddington’s silence.9 They ventured various explanations: there was no reporting on the situation in São Tomé and Principe during the war, the Cadbury contro-