BaYaka education

From the forest to the ORA (*Observer, Réflechir, Agir*) classroom

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Abstract: Schooling is part of a global effort to help Indigenous peoples adapt to their changing social and ecological worlds and assert their human rights. There is ongoing discussion among anthropologists and educational researchers as to whether schooling meets these goals. Here, we examine the harms and benefits of ORA (*Observer, Réflechir, Agir*), a school system developed to educate BaYaka children from the northern Republic of the Congo. Many BaYaka have become more sedentary in recent years, spend more

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time working for their farmer neighbours or in towns, and have lost control of their traditional forest areas due to logging. ORA aims to provide a pre-schooling structure free from discrimination to 1) encourage the retention of Indigenous traditions, 2) reduce vulnerability and marginalisation of Indigenous populations, and 3) integrate children into the national public schooling system. Here, we contrast BaYaka pedagogy, social relationships, health education, experiences of discrimination, foraging activities, and cultural and spiritual beliefs with ORA. We argue that ORA's curriculum structure and the cultural values transmitted in the classroom are at odds with BaYaka children's forest learning and lifeways. Especially, while ORA explicitly seeks to provide BaYaka children with educational experiences free from discrimination from their farmer neighbours, a lack of BaYaka teachers and mother-tongue instruction may in fact disempower and disenfranchise BaYaka students. We end by discussing alternative approaches to education that can benefit BaYaka children, and outline areas for future research. A short ethnographic film on ORA curriculum and classroom life by Romain Duda is available at https://www.youtube.com/watch?v=aB8VH0txKZM.

Keywords: BaYaka, childhood, education, school, learning

Introduction

In the Republic of the Congo, a network of schools founded in 2006 has been specifically developed to educate BaYaka children.[1] Run by Catholic missionaries and supported primarily by UNICEF, ORA (*Observer, Réflechir, Agir*) schools serve as a stepping-stone for integrating BaYaka children into state-run public schools or, more rarely, private Catholic schools. ORA schools are one of several school systems around the world which aim to increase mobile children's school readiness. Their development is a response to national and international efforts to ensure access to primary education globally (UN General Assembly 2015), as well as to a growing understanding that education can help marginalised communities adapt to their changing social and ecological worlds and assert their human rights (Aikman 2011; Matsuura 2017; Reyes-García & Pyhälä 2016). Many school programmes for Indigenous communities claim to help children

1. Here, we use 'BaYaka' in reference to several groups living in the Republic of the Congo (Bayaka, Mbenjele, Baluma, Mikaya, Ngombe/Baka), Central African Republic (Bayaka, Bofi) and Cameroon (Baka). The term BaYaka is an attempt to decolonise the appellations of Western Congo Basin hunter-gatherers as 'Pygmies'. The term is based on their self-identification to a larger group sharing cultural traits rather than on their current linguistic differences. Bayaka, Baaka, Biaka, Baka, etc are all local variations of the same name. The spelling with a capital Y (BaYaka) reflects the dual Oubangian and Bantu usage of this term. Please see Kölher & Lewis (2002) and Robillard & Bahuchet (2012) for further discussion regarding the complexities associated with endogenous and exogenous terms used to designate these populations.

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overcome discrimination and marginalisation, and access employment and higher educational opportunities (Hays & Siegruh 2005).

There is ongoing discussion among anthropologists and educational researchers as to whether schooling meets local aspirations and needs[2] (Bellier & Hays 2017). Schooling may threaten the acquisition of local environmental knowledge (see Reyes-García et al 2010 for review). This is because schooling occupies the time that children could normally dedicate to local knowledge acquisition, thus potentially leading to its loss (Barreau et al 2016; Sternberg et al 2001). Schooling has also been traumatic to many Indigenous communities, often discrediting traditions and local values. Some assimilationist educational programmes explicitly aim to erase Indigenous identity and lifeways (Jacob et al 2015; Reynolds 2005; Woodman 2019). It is thus important to understand the harms and benefits of schooling to BaYaka children, and hunter-gatherer children more generally. This issue is particularly important given that studies about schooling among Congo Basin hunter-gatherers are rare (see Dounias 2017; Kamei 2001 for exception).

Like other immediate-return hunter-gatherers, BaYaka share the foundational schemas of cooperative autonomy, egalitarianism and demand sharing (Sonoda et al 2018). BaYaka view themselves as 'forest peoples' (*bisi ndima*), in contrast to neighbouring farmers of diverse ethnolinguistic backgrounds (eg, Kaka, Mozombo, Enyelle, Bandongo), referred to as *bisi mboka* (village people) or *Bilo* by BaYaka (Köhler & Lewis 2002; Lewis 2015). Reflecting broader discriminatory attitudes held by non-BaYaka towards BaYaka, many BaYaka experience daily stigmatisation and discrimination from Bilo that is also present among pupils and some teachers in schools. Apart from school projects for BaYaka run by missionaries operating out of Impfondo, in recent decades BaYaka who seek a school education have relied on public services that have been of variable quality and efficacy. Since 2000, the significant expansion of logging in the region has resulted in a greater range of school providers, mostly based in the new urban conglomerations that grow around the activities of concessionaires. As roads rapidly open the forest to outsiders, many BaYaka find they can no longer control outsiders' access to their traditional areas and resources, with resource depletion resulting in many areas. Forest mobility is reduced as livelihoods get more limited, but meaningful employment in forestry or other sectors is difficult for BaYaka due to their lack of literacy and understanding of the cultural norms associated with wage-labour. The state schooling on offer is seen by some as a means to get access to better

2. These discussions lead to the creation of the Hunter-Gatherer Education Research and Advocacy Group (HG-EDU) hosted by the International Society of Hunter-Gatherer Research.

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jobs and opportunities, but most BaYaka children focus on learning key forest survival skills during adolescence as they will often start families in their mid to late teens (Borreill et al 2013:169). For those going to school, discrimination is a major challenge for BaYaka pupils, and continues after they have completed their education and seek jobs. Overall, many BaYaka have become more sedentary in recent years, spend more time working for their neighbours or in towns, and have lost control of their traditional forest areas. Increasing sedentarisation is also associated with increasing alcoholism, the dissolution of community ties, values, and institutions, increasing violence against women and children, and deterioration in nutrition and health (Borreill et al 2013; Lewis 2016b). Considering these emerging challenges, the present paper examines the educational experiences of BaYaka communities inhabiting the Northern Republic of the Congo.

The authors of this paper have diverse and complementary experiences working with BaYaka communities. JL has been conducting regular ethnographic research with BaYaka since 1994. Since 2016, SLL has conducted quantitative and ethnographic studies investigating BaYaka children's forest learning in a remote village in the Likouala department. In 2017 and 2018, RD conducted three anthropological consultancy missions across the Likouala, and in Enyellé in particular, on behalf of a development project for BaYaka health and rights. For this work, he conducted interviews and focus groups with ORA animators, children and parents. He made a fourth visit in Likouala in 2021. From 2013 to 2015, DB conducted ethnographic research on BaYaka concepts of learning and teaching, which included participant observation in ORA schools and interviews with ORA animators (i.e. facilitators, teachers). GL is a member of the Association des Spiritains du Congo (ASPC) and was based in Enyellé from October 2016 to August 2019 from where he coordinated the ORA school network.

Here, we build upon our collective experience to characterise the ways in which BaYaka lifeways contrast and articulate with educational experiences at ORA. To elaborate on BaYaka lifeways, we present data from participant observation, structured observation and interviews with BaYaka children and adults from logging towns, large villages, remote villages and forest camps. To understand educational experiences at ORA, we present data from classroom observations, interviews and focus groups with pupils, parents and teachers. Where available, we also report statistics from government and NGO documents. As GL was a key ORA administrator, we rely heavily on his knowledge of successes and challenges within the ORA school network. In what follows, we first describe the history and structure of ORA schools. We then examine the commensurability of BaYaka pedagogy, social relationships, health education, experiences of discrimination, foraging activities and spiritual beliefs with ORA.

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ORA: observe, think, act

ORA schools were founded by the Institute of the Brothers of Christian Schools (Frères des Écoles Chrétiennes, FEC), a religious organisation which aims to create a network of schools for poor families in France and around the world. The first ORA schools were established in Cameroon in the 1980s. Inspired by this initiative, Catholic missionaries developed ORA schools which would serve BaYaka children in Northern Congo. The first schools were opened in the 1990s by the Congregation of the Franciscan missionary Sisters of Mary in Sembé (Sangha department). Since 2006, a larger network of schools was created in the Likouala by the Congregation of the Holy Spirit (Association des Spiritains du Congo, ASPC) under the leadership of the Swiss Father Lucien Favre (Catholic parish of Enyellé, Diocese of Impfondo). For the 2018–2019 school year, GL reports that the ORA network in the Likouala consisted of 46 schools, 116 animators and nine supervisors for a total of about 4,000 pupils.

Since 2006, the Likouala's ORA schools have primarily been financed by the departmental delegation of education, as well as by the European Union (from 2013 to 2015), and the World Food Program for school canteens (since 2015). UNICEF has been pivotal in financing the programme, contributing 28 million CFA (approx. $50,000) per quarter for the salaries of animators and for school supplies.

ORA's main objective is to tackle the low level of education among BaYaka children. BaYaka children may fail to attend public school due to lack of access, funds or due to discrimination. By providing a pre-schooling structure, ORA claims to help BaYaka children integrate into public or private Catholic schools. Specifically, ORA schools attempt to:

- contribute to the law titled 'promotion and protection of the rights of Indigenous peoples in the Republic of the Congo', which encourages the retention of Indigenous traditions as well as the fight against discrimination
- reduce vulnerability and marginalisation of Indigenous populations through access to education and vocational training
- guarantee a right to education through the integration of ORA schools into the national public schooling system (MEPSA 2017).

ORA school is facilitated by animators. While the original intent was to hire BaYaka, few BaYaka had the prerequisite experience to become animators. Instead, most animators are Bilo and refugees from the Central African Republic and the Democratic Republic of the Congo. Animators are directly

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recruited for their skill in reading and writing, or volunteer for the position. Animators are managed by supervisors, who are meant to visit each school once a month. Supervisors are meant to be trained to conduct lessons and hold class by UNICEF consultants over the span of a week during the school holidays. During the school year, animators are also meant to receive three days of training. Due to financial challenges, training and visits are, in actuality, much less frequent.

All ORA schools have two grade levels: ORA 1 and ORA 2, and in some places, a pre-ORA class. ORA 1 is supposed to be taught in mother tongue, Yaka,[3] progressively shifting toward Congo's official language, French, during ORA 2. Although some non-BaYaka animators speak Yaka perfectly, the almost non-existent presence of BaYaka animators often results in the use of the vehicular language, Lingala, in ORA 1. After successfully completing ORA 2, children are expected to attend public school. In the 2014–2015 school year, for example, 246 former ORA students (76 girls) were integrated into 14 public schools (UNICEF 2015). Often, the level of education obtained at ORA helps children skip 1–2 grades. However, GL notes that there has been little follow-up with these students.

ORA's curriculum focuses on four areas: literacy, maths, health education and moral/civic education. The first pedagogical objective is to teach French (speaking, writing and reading), as not speaking French is considered the main barrier to BaYaka (and non-BaYaka) success in public school. Learning centres around common themes in BaYaka children's lives, such as body parts, kinship, the environment, activities (trapping, netting, gathering), seasons and diseases. The pedagogy is based on the audio-lingual method, which makes use of children's auditory and visual memory. The learning is led letter by letter. Once the visual and auditory memory of each letter is established, the animator starts to teach the application of these letters/sounds by using them in words or songs. For example, the animator draws a letter on the board, such as the letter u the term 'hut'. S/he writes the term in French ('*une hutte*'), s/he announces the term in Yaka, pronounces the French term several times insisting on the syllable studied ('u') and asks the children to repeat the utterance. The same process is repeated with other words. The class repeats, then one row, then a table, then each child individually to ensure that everyone pronounces the word correctly.

3. BaYaka of the research area refer to their language as munwa ba BaYaka or Yaka. It is a Bantu language, categorised by Bahuchet and Thomas (1986) as Bantu C10 in Guthrie's classification (1948). Munwa ba BaYaka, characterised by important regional variations, is inclusive and expansive, incorporating the languages of their neighbours and animals' communicative sounds (Lewis 2014a).

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Each week, the lessons focus simultaneously on 1) a topic from which the children will learn words, and practice writing and oral expression (eg knowing how to express a state of health), 2) a topic of health education to serve an example (eg childhood diseases), and 3) an aspect of moral education (eg showing self-confidence, overcoming shyness). To prepare children for public school, the national anthem is also sung every morning, being used both as a means to learn French through daily repetition, but also as a way to shape the self-identification of BaYaka as full Congolese citizens. Class structure and student positioning, respect for the animator's orders and authority status, individual physical posture and politeness are also enforced at ORA, as these values are typical of the public school system. For a visual introduction to ORA curriculum and classroom life, please see the short ethnographic film 'What School for the Bayaka?' by Romain Duda available at https://www.youtube.com/watch?v=aB8VH0txKZM.

Contrasting forest and ORA learning

Forest vs ORA pedagogy

In the forest, much of BaYaka children's learning is self-directed (Bombjaková 2018). Young children regularly participate in *lango massana,* or play camp, by setting up small camps, complete with small huts and hearths, over which they cook small portions of food, carefully sharing food portions equally among their playmates (Lew-Levy et al 2020; Lewis 2002). Boys hunt for grasshoppers or butterflies while girls collect handfuls of *Gnetum* (*koko*) leaves and glean a plantain or two from a mother's basket. Children also participate in *mokondi massana* – forest-spirit play. They assist in adult spirit play and children perform their own spirit plays (Bombjaková 2018; Lewis 2016a; see also later section 'Cultural values and spiritual beliefs'). As remarked more widely for hunter-gatherers (Takada 2020), these play activities usually occur in multi-aged, mixed-gender playgroups. During these play activities, children learn the practicalities of subsistence life, spiritual practices and norms regarding the gendered division of labour, cooperation and sharing. While children can, and often do, participate in subsistence and childcare, children are not obliged to do so, even in adolescence (Hewlett & Hewlett 2012).

BaYaka parents explain that directing children to learn skills before they are ready can impede their development and prevent them from learning other equally important skills (Bombjaková 2018; Boyette & Lew-Levy 2021).

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For example, DB reports being chastised by older women for encouraging a young BaYaka girl to learn to weave baskets, a skill she was not yet interested in mastering (Bombjaková 2018). Being uninterested in learning specific tasks or skills is often explained as children being un-ripe (*bo-tade*). This concept takes the observations of when fruit are most succulent and best to eat in the forest and applies it to when children are best primed for learning. The language used to explain the importance of children's self-motivated and autonomous learning reflects the intimate aesthetics of BaYaka, who use the forest as a source of analogies to make sense of and guide the understanding of human behaviour. Conversations about children's education, skills, interest in learning, and teaching are imbued with forest metaphors (Bombjaková 2018).

The ORA curriculum attempts to make daily lessons relevant to children by relating the learning of French and maths to BaYaka daily life, and by incorporating play-acting into instruction. According to the ORA textbook, while learning about 'life-saving skills', animators facilitate exercises where children learn how to communicate about a person's health, including common illnesses, hygiene, traditional healing practices and hospital treatments. The drawings in textbooks are of local situations, such as traditional and modern activities, Bilo/BaYaka trading relationships, a son accompanying his father to set traps, or a group of children during a ritual performance of the most important forest spirit, *Ejengi*. Due to funding and transport issues, textbooks are not available in every classroom.

Still, BaYaka children do not help shape the structure and content of the school day. In informal conversations with the BaYaka children, they informed DB that they were unhappy about the lack of autonomy afforded to them, including during recess. In that school, students were not allowed to play the games they wanted to play. Boys and girls were asked to play in gendered-segregated groups. For example, the boys were given a ball and asked to play football, while the girls were asked to play *django*, a game popular both among the Bandongo Bilo and BaYaka girls. While BaYaka sometimes play gender-specific games in the forest, doing so is freely chosen rather than imposed. During class time, animators viewed instruction as the main vehicle for knowledge transmission. Play and peer conversations were not considered meaningful learning opportunities. In sum, the vertical and directed modes of transmission experienced in the ORA classroom contrast sharply with children's autonomous learning through play in the multi-aged, mixed-gender peer group in the forest.

Animators also sometimes use threats and intimidation to force children to attend school. For example, before the start of the school day, DB observed animators walking through the village to pick up children. If the families

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were in the forest, the animators would inform parents that 'it is to the police headquarters in Thanry [the nearest town] the child in the forest must go, if he doesn't want to attend the school. Thus, we need his father, so that he goes to prison for his son'. A note to this effect would also be sent to the forest camp. An animator explained to DB that BaYaka see Bilo as having 'big mouths'; they talk a lot and do little. Since BaYaka fear the police, the threat of calling the police was considered an effective method of coercion by the animator. Animators also use threats in the classroom, at times hitting children for minor misbehaviours. These tactics not only contrast with the self-directed nature of BaYaka learning, but they are also perceived by BaYaka as a form of bad noise (*motoko).* Noise is unpleasant, hot, painful, and causes the forest to 'close'; it scares away the hunt (Bombjaková 2018; Lewis 2002; Oloa Biloa 2017). Thus, bad noise is dangerous, and should be avoided. As a result, parents sometimes cooperate with children to justify their absence from school. While many BaYaka children assert that they enjoy school, they also refer to their fear of physical punishment and bad noise as reasons not to continue their schooling.

For example, in January 2014, in the small rural village where she worked, DB spotted three boys running from school to hide in the cocoa plantation behind their houses. Two of them were crying very loudly and couldn't speak. A group of younger children surrounded them. DB asked what had happened, and why they were crying. The children explained:

> *'Professeur abimbola bene. Abimbola bana. Adie moto mobe.'* The professor [animator] beats them. He beats children. He is a bad person.

On several occasions, children explained to DB that they were afraid of going to school. In January 2014, for instance, one child said:

> *'Me die na bomo, me kila yekoli.'* I am scared, I refuse [to go to] school. *'Le professeur adie na munwa abole – Motoko fo'* The professor [animator] has a big mouth – he just makes noise.

In larger town centres, where children often board far from their families, maltreatment is also reported. In March 2019, two sets of BaYaka pupils in boarding school in Betou walked days and miles through the forest to return home to Thanry and Mboa. GL stopped them and offered them lodging and tried to persuade them to go back to school. They kindly refused, stating that they did not receive enough food at school.

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Egalitarian and collective vs hierarchical and individualistic relationships

BaYaka are highly egalitarian, and many cultural institutions help maintain egalitarian social relationships. One such institution, *mosambo*, is used to organise labour and comment on the behaviour of others (Lewis 2014b). *Mosambo* can relate to subsistence activities, such as encouraging camp members to collect certain resources needed by the group, or to the shaming of individuals who have misbehaved, such as when hunters hide meat instead of sharing it with the camp (Bombjaková 2018; Sonoda et al 2018). Because *mosambo* usually occurs in the morning or evening, when all camp members are present, the transgressor is publicly shamed for his actions (though names are rarely given). All present, including children, are made aware of norms and which actions are considered violations of such norms. Occasionally, *mosambo* is directed towards children and adolescents, especially when they have been playing dangerously, when involved in inappropriate or excessive sexual behaviour, or taboo sexual relationships. Except for certain contexts, such as children participating in forest-spirit plays (*massana*) (Lewis 2016a:150; see also section 'Cultural values and spiritual beliefs'), BaYaka avoid praising individuals. When praise is conferred during *mosambo,* the speaker mentions an age or gender group to which this individual belongs. Praise of this form celebrates individual contributions to the well-being of the community as a whole (Bombjaková 2018).

Moadjo is another normative public event which involves the spontaneous repeated and humorous re-enactment of transgressive behaviour (Lewis 2014b). These 'plays', performed primarily by women, elicit 'a moralistic commentary from their audience that, by the end of the show, has served to communally map out the moral high ground' (Lewis 2014b:230). Transgressions such as refusals to share are often mocked by women through *moadjo.* Children learn about norms and their transgressions through these performances, even when *moadjo* is not directed towards them (Bombjaková 2018).

While the ORA curriculum explicitly encourages collaborative group work, how animators solicit student participation may implicitly reinforce individualism, competition and boastfulness. For example, in a classroom observed by DB, children were expected to respond to animators as quickly as possible. When children did so, they were praised. When children performed poorly in the classroom, they were publicly shamed by the animator. The ORA animator also compared pupils to each other, such as by commenting on the superior writing skill of one student over another (Bombjaková 2018). Such competitive ordering of people is at odds with BaYaka values that reject

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classifying human differences hierarchically. While children's performance is constantly monitored and commented upon in the classroom, some animators preferred not to inform parents about their children's performance because they assumed that BaYaka parents were incapable of understanding the importance of schooling and, ultimately, because they feared that failure in the classroom could encourage absenteeism.

In contrast to *mosambo* and *moadjo,* which change behaviour without disrespecting personal autonomy, discipline in the classroom is highly individualistic. Children who have misbehaved or transgressed classroom norms are sent to sit isolated from their classmates in the corner of the classroom, encouraged to ruminate on their actions, and to repent. Punished children are often told to 'go and think about what you have done!' But, for BaYaka, thinking (*bo-kanisa*) is associated with negative thoughts and emotions. When 'the problems keep walking in your head' (*mendo batambola mosuku*), it is necessary to let them out, to share them – for example, by speaking *mosambo*. Holding one's emotions and dwelling on them, and refusing to share them, is referred to as a lie (*bwanya*). This is especially visible in the ways public mocking theatre *moadjo* is employed, where mocking often targets the hiding of emotions. In sum, discipline in the ORA classroom places the locus of change within an individual's mind, practices which are at odds with BaYaka problem solving through collective action.

Learning about health and diseases prevention

Many BaYaka consider the forest to be a place of health and cleanliness. Forest animals are considered clean and consuming them is health giving. Mobility and the low population densities of small forest camps helps prevent epidemics, accumulation of parasites and vector-borne diseases such as malaria. In the event that a forest camp becomes infested with parasites (eg jiggers) or a contagious disease breaks out, people are quick to leave the camp and build a new one elsewhere. In contrast, the village is considered hot, dangerous and dirty, and domestic animals are considered dirty and not eaten by most BaYaka because they consume human waste. As BaYaka increasingly settle into village life, they face higher rates of diseases affecting children, such as measles and chickenpox (Froment 2008). Because schools are mostly located in bigger villages, health education is of primary importance to BaYaka transitioning from forest to village life.

According to ORA textbooks, animators are asked to facilitate healthy behaviours by highlighting preventative steps that can be taken to maintain

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health. As animators walk through the village to collect children for school, they often insist that children first go to wash as part of a morning personal hygiene routine, notably to prevent intestinal parasites. Under the supervision of the animator, children are shown how to wash themselves with soap. Once children arrive in class, the day starts with a song, the lyrics of which explicitly describe the routine. In one instance, the children were learning about the vowel 'a' using the word *'ananas'* (pineapple). As part of the lesson, the children were asked to wash their hands before and after sharing a pineapple. Animators also told stories about how one can fall sick from not washing her/his hands. Effectively, the ORA animators used explicit teaching, practical implementation, music and play to share the importance of washing with soap.

Similarly, ORA animators used explicit teaching and play to help overcome BaYaka children's fear of needles and injections which occur during treatment in hospital or during national vaccination campaigns. Despite a common BaYaka healing practice involving the direct application of an ointment made from charcoal on short cuts made in the skin, many children fear vaccines because injections cause pain and are often followed by low-grade symptoms, like mild fever. To dissipate these fears, DB observed ORA animators and children role-playing doctor and patient. They used tiny wooden branches to represent syringes. While the children were 'vaccinating' each other, the animator explained that the vaccines are not bad for them, that the pain is similar to a thorn or an insect bite, and that the substance in the vaccine 'hunts' the 'bad parasites' in their bodies. These playful activities are designed to help BaYaka children develop healthy habits and positive relationships with healthcare workers.

Overcoming discrimination in the classroom

As in other hunter-gatherer societies (eg Takada 2015), BaYaka maintain labour relationships with neighbouring farmers. There are a range of relationships between Bilo and BaYaka in Northern Congo. Generally, in the initial phases of contact, Bilo are generous and considerate to BaYaka needs. As time passes, these relations become more strained, reflecting the friction created when a society based on demand sharing valued goods is in a material exchange relationship with another society firmly based on private property and debt relations (Köhler & Lewis 2002). Conflicts emerge most often over the non-payment of debts and the coercive measures taken to oblige repayment. This tension is expressed in their differing interpretation of the meaning of term describing their relations: *'konja'* (in BaYaka taken to mean 'friend') or '*konza*' (in Lingala and many local

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Bilo languages taken to mean 'owner'). Many BaYaka groups refer to Bilo as gorillas (*ebobo*) due to their shared obsession with claiming ownership over items, in particular in demarcating areas of forest as their exclusive property (see Oishi 2014 for further discussion). From a BaYaka perspective this is illegitimate, as the creator *Komba* made the forest to satisfy all creatures' needs. For BaYaka, calling Bilo gorillas is a simple statement of fact, not a derogatory appellation. However, Bilo can get angry and offended when publicly referred to in this way.

In response to these tensions, Bilo seek to claim more authority over BaYaka by increasingly incorporating BaYaka into their clan structures so that clan patriarchs have the power to curse BaYaka who do not do as they are told. Bilo use this as a socioeconomic strategy to make increasingly threatening claims to BaYaka labour. BaYaka resist the demands made on them using avoidance strategies and by finding other 'friends'. Many individuals and entire local groups sometimes leave their Bilo and establish new relations elsewhere. Members of the groups that JL works with have created and broken relations with six linguistically different Bilo groups over the last 30 years.

The reduced dependence on forest products by Bilo in conjunction with the absorption of social evolutionary ideologies promoted in colonial and development discourse situates mobile hunter-gatherers as primitive and animalistic, farmers as more civilised and productive, with the pinnacle of evolution being those educated people that succeed in obtaining salaried employment and live from money as technologically sophisticated consumers of international market products. The aggressive promotion of these ideologies has led to increasing discrimination against traditional BaYaka lifestyles. Discrimination is especially felt in public schools, whose teachers and pupils are usually not BaYaka and who promote social evolutionary ideologies. By offering a pre-schooling system aimed at BaYaka children, ORA intends to provide a learning setting free from discrimination. While priority is given to BaYaka children, Bilo children sometimes attend ORA schools when the public school is closed or non-existent. When this occurs, BaYaka and non-BaYaka children tend to sit and play separately (Bombjaková 2018).

ORA initially aimed at recruiting BaYaka animators. Yet, despite its existence since 2006, the lack of follow-up with students after their participation in the ORA system has made it impossible to develop a pool of sufficiently educated BaYaka who can be employed as animators and thus maintain pedagogical consistency. Less than 30% of animators by 2019 were BaYaka. According to GL, the number of BaYaka with sufficient reading and writing skill is too low to serve the many schools of the Likouala department. The few BaYaka who do have these skills often live in bigger villages or small towns. These BaYaka often have limited

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experience with forest life, and sometimes adopt social evolutionary rhetoric from missionaries, logging companies and NGOs. Consequently, they aren't willing to staff more remote schools. Non-BaYaka made up the majority of ORA animators, some of them consciously or unconsciously reproducing power relationships including authoritarianism with pupils or their parents, paternalism, criticism of forest life and verbal or physical violence. The ORA coordinators also tended to recruit animators originating from the Central African Republic and the Democratic Republic of the Congo because they operate outside of traditional Bilo–BaYaka power relations, are motivated to work as educators, and are willing to staff remote schools. These animators had varying degrees of proficiency in reading and writing, Yaka language and understanding of BaYaka culture.

Animators and parents argue that a child who has attended ORA school has a better chance to further her/his education once s/he integrates into the public schooling system. However, how to manage discrimination in public school does not appear to be explicitly taught in the classroom (Bombjaková 2018). Nonetheless, many animators in public and Catholic schools reported to GL and RD that in ethnically mixed classes, BaYaka children often appear as the most lively, intelligent and awake. This widespread observation of the precociousness of BaYaka children in schools is probably linked to the strong cultural emphasis on self-directed learning in BaYaka childhood as opposed to the authoritarian modes Bilo children are used to. Interviewed children who have transitioned to the public school say that they are well integrated with the other pupils. For example, during inter-school soccer games in the Region of Enyellé, former ORA pupils attending Catholic schools feared discrimination, and planned to play with the ORA team. To GL's great surprise, the Bilo pupils said: 'these guys study with us, they are going to play in the school team too'. Unfortunately, there has been little follow-up with former ORA students by the ASPC and the overall success of integration from ORA to public school is unclear.

Because few BaYaka children continue to public school, ORA may paradoxically contribute to increased separation between BaYaka and Bilo children. BaYaka and Bilo historically spoke each other's languages, and many seasonally cohabitated in the forest or the village. These extended interactions – though not without tension – helped develop a sense of mutual respect for the different qualities each group exhibits. Before the establishment of ORA schools, many Bandongo (Bilo) elders reported to SLL that they financially supported the public-school attendance of their brightest BaYaka relations. SLL also observed enduring friendships between BaYaka and Bilo who attended public school together. As BaYaka and Bilo now attend separate schools for preschool, and BaYaka rarely continue to public school, opportunities for interaction and friendship building are less frequent.

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Concordance with subsistence activities

BaYaka children are active foragers (Lew-Levy et al 2019). Children playing near camp may stop periodically to climb a tree and collect fruit. Children also participate in foraging activities, such as *doka* fishing or gardening, alongside adults. By 'observing and pitching in' (Paradise & Rogoff 2009) children learn to perform foraging tasks while contributing to their family's subsistence efforts. Children also use foraging techniques which are child-specific, such as hunting birds and rats with slingshots and thin spears. Traditional ecological knowledge is interwoven in night-time sang fables (*gano)*. In these tales, the main characters are often animals or plants, and there are specific, often explicit descriptions of non-human beings and their relations with one another (Motte-Florac 2012).

Because time is a finite resource, how children spend their time will shape how and what they learn. Bombjaková (2018:286) estimates that if BaYaka children attend school full time, they will have devoted 720 hours a year to schooling, time which could have been spent learning cultural and subsistence activities. Further, the benefits of schooling, especially in remote village settings, appear limited. In SLL's estimation, only two of approx 100 school-aged BaYaka children had any reading and writing fluency, despite all sporadically attending ORA, in the village where she works. Most children could write the letters of the alphabet. No children spoke French beyond basic greetings. Jobs for which schooling is required, such as working for logging companies, likely benefit BaYaka living in towns more than those inhabiting remote areas. That said, GL was informed of individuals who, as adults, attended ORA in Enyellé and Mboa. They became proficient enough in French to attend a vocational school in Betou. Though they completed the training, these adults were not able to find employment, and returned to the village to hunt and fish. These challenges highlight the lack of economic opportunities offered to individuals who succeed at school, even those living in towns, especially in contrast to the plethora of subsistence opportunities offered in the forest.

BaYaka are also mobile foragers whose seasonal fishing and hunting journeys can take them far into the forest in the dry seasons from November to April (Kitanishi 1995). In the first year of ORA (2006), great effort was put into integrating school activities with BaYaka seasonal mobility. Eventually, however, ORA schools transitioned to following the official calendar of public schools: children and families had to choose between school and forest activities. Field coordinators argue that the decision to adopt the official school calendar was based on the view that parents should adapt their activities to the obligations imposed on their children by school.

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In towns and large villages, some BaYaka do report adapting their activities to the school calendar. In early October, they leave the forest to sell wild products in order to buy school supplies – which are normally provided but often arrive too late – and accompany their children to school, or drop their children off with relatives. Although the caterpillar season (approximately from June to September) falls during the school break, some parents reported adjusting their dates of departure and return from forest camps to the school calendar. For example, one mother told RD:

> I know that if school closes in June I can take the children to the forest. I bring the children to the forest during the caterpillar season, in July. As soon as school is back in session, I send my children [back] to the village.

When BaYaka families do move, children may not stop attending school completely. When available, some children opt to register in a school near to their forest camp, a practice which is allowed by ORA. For example, GL reports that a field supervisor noticed, while crosschecking lists, that some names were repeated, as some of the missing children from one school had been attending another. Because tracking these students is difficult, it remains unclear whether these strategies are widely adopted or whether these cases represent a select few. Further, such strategies are unlikely to be used by a majority of BaYaka who continue to live in remote villages and forest camps. For example, in the remote village where SLL works, an animator reported that during the fishing season, the ORA classroom was nearly empty. When they return to the village after this long absence, many children drop out of school.

Cultural values and spiritual beliefs

BaYaka children grow up with a notion of the forest as a fertile, safe, calm place, abundant with food. The forest is seen as the perfect place to give birth, to make love and to learn. While BaYaka value the village as a setting for socialising and bartering, the village is nonetheless often referred to negatively during *mosambo* and *gano.* The challenges of village life in contrast to the forest life are also referenced in daily conversation. For example, DB's interlocutors stated that 'people hide things easily in the village', that 'men drink too much in the village and then they beat others', and that one should 'seek joy in the forest'.

One of the ways BaYaka seek joy is through *mokondi massana*. *Mokondi massana* – or forest-spirit play – is a community-action ritual. *Mokondi massana* is central to BaYaka identity (Lewis 2014a; 2016a; 2021). *Mokondi* are forest spirits which are captured, fed music in return for joy, and then shared

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via initiation (Lewis 2015). During *mokondi massana*, women and children sing, dance and clap to lure the spirit from the forest and down the *njanga* secret path to feed on their singing in camp, producing great joy amongst all present. Ultimately, the goal of *mokondi massana* it to please the forest by sharing beautiful sounds with it. The forest, like a person with whom you share, becomes generous and opens itself, leading to good luck in hunting and to an abundance of food to gather, trap or fish.

There are many different *mokondi massana* – some belong to men, some belong to women, and still others belong to children. By participating in adult *mokondi massana,* and by performing their own *mokondi massana,* children learn to become proper persons – persons who are active collaborators in wider community endeavours (Bombjaková 2018; Lewis 2021). For example, young children and toddlers will be positively, and sometimes very loudly appreciated (*Yeeee! Essengo ike! Mona angamu e!* Wow, what joy you give me my child!) when they spontaneously participate in *mokondi massana* by dancing and clapping. Polyphonic singing is especially important to the development of self within *mokondi massana,* because it 'promotes respecting individual originality by giving opportunity to each person for unique expression and freedom to join in' (Bombjaková 2018:296; see also Lewis 2016a; 2021). Importantly, the aesthetic qualities of individual performances are not judged, praised or commented upon. Instead, what is important to the success of *massana* is the collective collaboration that is involved to produce highly attuned polyphonic chorusing. When this is achieved, it produces exquisite music that generates joyful states in all present.

The implicit and explicit values transmitted in the ORA classroom are often at odds with the cultural values and spiritual beliefs of BaYaka. The choice to situate schools in the village isolates children from forest activities and devalues the importance of the forest to BaYaka lifeways. More explicitly, one animator repeatedly proclaimed to DB that the forest is a suffocating place where darkness, danger, sorcery and disease pose a risk to health and well-being. So afraid of the forest was he that the animator refused to visit forest camps, despite needing to discuss school-related issues with parents.

While singing is an intrinsic part of ORA pedagogy, this singing is homophonic. Because polyphonic singing involves improvisation and overlapping voices, one ORA animator stated to DB that he viewed polyphonic singing as messy and improper. Placing an emphasis on homophonic singing undermines key learning opportunities for cultivating cooperative autonomy by improvising song while carefully attending to others and harmonising with them independent from hierarchy and status positions. This core value organises not only music, but

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also the rhythms of daily camp life (Lewis 2021). The BaYaka egalitarian ethos further encourages individuals to make their own decisions about when to start or stop singing, and what melody they will contribute to. Homophonic singing violates egalitarian values by forcing all to sing the same melodies, discouraging individual creativity and initiative and by structuring performers as followers being led. When DB imitated someone's singing, people found it disturbing – she was instructed 'sing your own way' (*lemba to na ndenge angophe*). As Lewis (2014a:81) states: 'the greater the degree of acculturation to farmer and village lifestyles the less frequent is yodelled polyphonic music'.

When ORA schools first started, the Lord's Prayer was taught as part of religious education. Religious education was dropped from the ORA curriculum soon after, in favour of secularising the schools. While proselytising is no longer sanctioned by ORA schools, some animators – both Catholic and Protestant – continue to incorporate prayer in the classroom. For example, DB occasionally observed an ORA animator leading his students through the Lord's Prayer in Lingala at the beginning of class. The animator stated each line of the prayer, which the children then repeated. The prayer ended with the animator and the children performed the sign of the cross. We note that many Christian denominations actively evangelise BaYaka, and that BaYaka themselves increasingly identify as Christian. Further, GL notes that church records do not show an increase in demand for Catholic baptisms in the villages where ORA operates. Still, as an early childhood education programme supported by UNICEF, we question the ethical implications of animators incorporating obligatory prayers into schools aimed at educating Indigenous children.

While the observations made in this section are noteworthy, we lack sufficient data to determine whether the observed classroom practices were widespread among ORA animators. We do not know how often such views – fear of the forest, disdain for polyphonic singing and Christian philosophy – were communicated in the classroom, nor how they influenced BaYaka children's sense of self.

Discussion

In this paper, we have sought to shed light on the commensurability of BaYaka children's forest and ORA classroom learning. We have outlined the ways in which self-directed learning through play, public speaking events such as *mosambo* and *moadjo,* and participation in subsistence and spiritual activities contribute to BaYaka children's development. We have also described how

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curriculum structure, hierarchical teacher–student relationships, competitive classification of students, deference to authority, directed learning, the academic calendar, and individualistic moralising in the classroom are at odds with BaYaka children's forest learning and BaYaka lifeways more generally. Learning school-based knowledge instead of subsistence activities, and the transmission of hierarchical and nonautonomous social values in the classroom, may contribute to knowledge loss (Rival 2002) and break down egalitarian social relationships (Kaare 1994; Lavi 2019). Over time, these shifts may disenfrachise BaYaka from their traditional territories (Pandya 2005) while simultaneously forcing assimilation into market economies and the state (Dyer 2001). Thus, schooling represents an important risk to BaYaka cultural identity, political and economic autonomy and self-determination.

Developed with the aim of promoting Indigenous rights while reducing vulnerability and marginalisation through education, we believe that ORA has fallen short of its stated goals. Like many other school systems aimed at educating Indigenous children, we feel that ORA has espoused the language of modern national and international development initiatives while reproducing educational practices dating to the French colonial period. This is because, as Davies (2005:359) argues, education systems can be conceived as '"frozen accidents", in the sense that they were a product of some policy or thinking at a particular point in time which then become taken for granted as the only reality'. We believe that without meaningful co-creation of educational offerings with and for BaYaka, a new reality cannot be created; educational programmes will continue to reproduce colonial power dynamics, thus further disempowering and disenfranchising BaYaka. While we have focused here on ORA schools, these observations likely equally apply to children's experiences in public and other private schools. As Bahuchet (1991:25) aptly states: 'Badly designed schooling has a very serious effect in that it cuts children off from the ethno-ecological learning usually provided by adults, and by valuing other lifestyles it introduces doubt or shame into children's minds, accentuating generational quarrels'.

At the bare minimum, recruiting BaYaka animators into the ORA system must be a priority. Having teachers of one's own cultural background can improve student achievement (Dee 2004) and ensure first-language education, which has been demonstrated to affirm cultural identities (Kakkoth 2014; Morcom 2017) and improve the acquisition of second languages (Cummins 2000; MacKenzie 2009). As outlined, non-BaYaka animators may bring to the classroom prejudiced views about BaYaka lifeways, including spiritual and forest practices. When reinforced in the classroom, such views have the potential

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to alienate BaYaka students from the forest. Training and retaining BaYaka animators should be at the centre of any educational programming aimed at BaYaka children. In addition to providing employment opportunities for ORA graduates, animators could also be selected among those motivated adults who sometimes attend ORA alongside children. These individuals could be trained through one-on-one tutoring and other targeted training programmes. No initiatives of this nature have been observed.

Still, we do recognise that ORA provides some benefits to BaYaka. Especially, developing preventative health practices is one potentially positive initiative of ORA schools, especially as BaYaka increasingly transition to village life where disease burdens may be higher (Dounias & Froment 2006). Rival (2002:165) similarly describes how Huaorani school routines promote cleanliness by incorporating toothbrushing before class, and by reading stories about 'mothers and little girls cleaning the house, boys taking showers, children brushing their teeth or doctors warning against flies, rats, and other infectious pests'. However, it is worth noting that Rival views Huaorani enthusiasm for these hygiene rituals, both at school and outside of it, as reflecting their agency in 'their own acculturation, understood as the acquisition of another body' (166). Other bodily experiences associated with schooling – including sitting still, facing the teacher and limited sensorial experiences (Morelli 2012) – may also lead to acculturation. Understanding how BaYaka conceive of acculturation in terms of bodily practices, and how these compare with those from other communities such as the Huaorani, is an important area for future study.

Our observations of BaYaka ORA schooling share many similarities with those made by other researchers working in the Congo Basin and beyond (see Ninkova et al 2022; Hays et al 2019 for review). Kamei (2001) examined Baka children's receptivity to an ORA school established in Malapa, Cameroon, in 1992. He notes that despite the advantages associated with ORA, including first language education and efforts to recruit Baka teachers, many Baka children refused to attend. Further, during the dry season, children followed their parents into the forest, leading to high pupil absenteeism. Dounias (2017) reflects on a boarding school founded by the Fondation pour l'Environnement et le Développement au Cameroun (FEDEC) in 2003 to facilitate access to school for Bakola children from remote camps or villages. He outlines some of the challenges to children's school attendance, including: school calendars that do not account for seasonal foraging activities; an emphasis on vertical transmission (from teacher to student), thus overlooking the importance of horizontal (child-to-child) learning during play and foraging activities; and an

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individualistic approach to school success at odds with the cooperative cultural values of the Bakola.

School systems serving Indigenous and non-Indigenous children from around the world have aimed to overcome the challenges we have described, many in simple ways. Schools have adjusted their calendars to accommodate important foraging seasons, such as the dry season vacation among the Baka (Kamei 2001) and Goose Break among Canada's Eeyou (Cree) First Nation (Miller 2019). Two Rabbits in Cameroon engages Baka community members in creating preschool content in the form of songs, games and stories. These educational materials are delivered by community-nominated teachers over solar-powered MP3 players (Two Rabbits 2019). In Massachusetts, the Sudbury school operates on democratic principles of self-directed education and egalitarian student–teacher relationships (Gray 2017). These programmes, and others (Nyae Nyae village school in Namibia (Cwi & Hays 2011); Shuar Federation's bicultural distance radio education (Katz & Chumpi Nantip 2014); bicultural education in New Zealand (Sullivan 1993)) are not without shortcomings; however, they demonstrate how schools can be adapted to the needs of culturally diverse students.

One such effort was attempted in the mid-1990s by the Glannaz family, staff of the logging company in Pokola, Sangha Department. BaYaka were increasingly attracted to the logging town. Parents would frequently be at work during the day, leaving their children to roam the streets and making them vulnerable to abuse (drugs, sex and exploitative labour). Initially set up as a canteen offering a midday meal and health care to these children at a small farm outside Pokola, it soon incorporated basic literacy and numerical skills. As time passed, mud brick buildings were erected to house the growing numbers of children arriving. The untimely death of Frédéric Glannaz, who along with his mother Marie and wife Mia had been running and supporting the 'foyer' (day care centre), led to the formalisation of the initiative. The Foyer Frédéric Association Ba'aka (FFAB) then established itself with four classes based on voluntary attendance.

The first class was run by a BaYaka teacher and welcomed all, providing them with drawing and basic literacy skills. Children desiring more skills could attend class 2 where formal literacy skills were taught. Those showing interest and skill were then invited to class 3 and 4 where they followed an adapted literacy and numeracy programme intended to enable them to enter the national education system. Although registers were taken, there was no pressure on children to attend. To maintain traditional knowledge and skills, traditional *gano* were told during lessons and children were taken out by selected elder women to learn plant identification in the surrounding forest.

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These elderly women were tested for their forest knowledge by being taken around the *sentier botanique*, a forest path that passes all the key tree species used to test forest prospectors' tree identification skills. Elderly women that could identify all the trees were recruited as traditional teachers for FFAB. They would spend two hours a day with each class walking in the surrounding forest if the weather allowed, or telling stories in the classroom if not. In the mid-2000s, with the retirement of the Glannaz family from Pokola, the school continued for some years through support from the logging company and private donations.

Eventually, the pressure to register the Foyer as a formal school intensified as different NGOs became involved, and one formed by retired teachers from France took over the running of FFAB. With limited knowledge of BaYaka culture, they introduced practices that sought to emulate formal schools – discipline, obligatory attendance, hierarchical classifications of student achievement and a more formal curriculum. One teacher from France, Eugénie Gaudin, aware of the ORA approach but critical of it, spent several years developing pedagogical materials for FFAB based on BaYaka children's lived experiences. In this period, FFAB extended its reach to two more locations in Kabo and Ndoki I. Mme Gaudin made several unsuccessful attempts to share her approach with UNICEF so that it could be distributed more widely. However, long distance management of FFAB became increasingly difficult. After a few years, a local NGO took over the schools with UNICEF funding to provide ORA-based education. Misuse of these funds led to the NGO ceasing to exist and FFAB also ceased to function as a school, though it continues to offer meals to BaYaka being treated in the local hospital with private donations from company staff. FFAB illustrates what can be achieved when schools are developed to meet the specific needs of BaYaka students, as well as the ongoing challenges of maintaining culturally respectful educational practices in the face of national and international pressures to impose Western-centric schools across the world.

Due to management and financial issues, the long-term fate of ORA schools is uncertain. In recent years, animators were rarely paid on a regular basis. More remote schools faced graver challenges, with poorly paid animators single-handedly running schools, and at times financing materials or childcare themselves. At the time of writing (May 2022), ORA schools under ASPC are closed. Ten schools have been integrated into the national school system and now teach both BaYaka and Bilo children using the national curriculum. That said, ORA's legacy in the region, like the colonial schools before it, continues. We hope that the observations made in the present paper can help develop more

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culturally appropriate educational experiences for BaYaka children, and forest people from the Congo Basin in general.

There are many limitations to our paper. While we have quoted individual ORA pupils where possible, the missing voices and perspectives of BaYaka children and their parents represent a glaring gap in our analysis. We also lack direct observations of how ORA schools function on a day-to-day basis, as well as sufficient detail to compare how ORA pedagogy is implemented in towns versus more remote villages. Long-term follow-up with ORA students is needed to examine whether ORA adequately prepares BaYaka children for success in primary and secondary education, and how participation in ORA affects the acquisition of traditional ecological knowledge and cultural values (Reyes-García et al 2010; Lavi 2019). We do not know if children who attend ORA are better able to adjust to school life than those who commence public school directly. We also do not know how BaYaka children conceive of their economic opportunities following schooling. Such longitudinal data has been insightful in the context of Nyae Nyae village schools serving San communities in Namibia (Hays 2016). Finally, it remains unclear whether mass schooling of children for two years is a superior strategy to fully supporting a small number of highly motivated pupils through the entirely of their education. We hope to address these gaps in future works.

Author contributions

All authors contributed equally to the writing of the manuscript. DB and SLL jointly edited and finalised the manuscript.

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