

News & views



Figure 1 | A Catholic school in Burkina Faso. Alesina *et al.*¹ examined how, across 21 African countries, a parent's religion influences the likelihood that children will receive more or less schooling than did their parents.

Social science

In Africa, religion predicts educational mobility

Melina R. Platas

Census data from across Africa reveal that religion is a strong predictor of whether a child is likely to complete more or less education than their parents. The analysis calls into question current approaches to closing education gaps. **See p.134**

Free basic education is considered a universal human right (see go.nature.com/3refkbs), and often seen as essential to economic growth and human well-being. Nevertheless, there are large inequalities in levels of educational attainment both across and within countries (see go.nature.com/3guyjhi). Although

less-well documented, there are also inequalities in intergenerational educational mobility – whether a child completes more or less education than did their parents. On page 134, Alesina *et al.*¹ document patterns of inequality in intergenerational educational mobility, in terms of whether children complete primary

school, across religious groups in Africa. This region has the highest rates of children out of school, and is also the only region in which this number is growing in absolute terms (see go.nature.com/3kqzgom).

Existing research and policy regarding education have focused on inequalities by gender, ethnicity and income. But religious groups and organizations have had a central role in providing education in Africa in the past 100 years. Could religion be a major factor for understanding patterns in education in Africa today? Alesina and colleagues set out to investigate this possibility.

The authors measured intergenerational educational mobility using census data from 2,304 districts in 21 countries across Africa (Fig. 1). Their central finding is that people who identified as Christians in the census data tend to have higher upward educational mobility and lower downward educational mobility than do people who identified as Muslim and those practising Indigenous (traditionalist) religions. This means that, if a pair of parents did not complete primary school, their children

are more likely to complete primary school (showing upward mobility) if the family is Christian than if it is Muslim or traditionalist. Conversely, if a pair of parents did complete primary school, their children are more likely to drop out before the end of primary school (showing downward mobility) if they are Muslim or traditionalist than if they are Christian.

The mobility gaps that Alesina *et al.* document across religious groups are large. For example, among Nigerian children born to parents without schooling, nearly 80% of Christian children but less than 50% of Muslim children will go on to complete primary school themselves. In Cameroon, nearly 20% of Muslim children whose parents completed primary school will not do so themselves, compared with just 4% of Christian children.

Nigeria and Cameroon exhibit some of the largest mobility gaps, but the authors found evidence for such gaps in most countries they investigated. A few countries, including Rwanda, South Africa and Uganda, show the opposite pattern, with Muslim people having higher educational mobility than Christian people – in these countries, Muslim people represent just a small percentage of the population.

What explains the widespread gaps in intergenerational educational mobility across religious groups in Africa? Alesina *et al.* persuasively discount several plausible answers: economic factors such as occupation; differences in household size and composition; geographical factors such as distance to the capital; and historical factors such as distance to colonial-era Christian missions (where many schools were established). Instead, the authors show that mobility gaps correlate with religious demographics and with differences in 'initial' literacy rates – that is, rates at the time African countries gained independence from European colonizers, which was around the 1960s in most cases. These findings corroborate my own, which show that the proportion of Muslim people at the regional and village level is a strong predictor of the Christian–Muslim gap in attendance and years of school (ref. 2 and see go.nature.com/3lbbshj).

Alesina *et al.* show that the Christian–Muslim mobility gap is larger in regions where there are proportionally more Muslim people, and where there was a large gap in literacy between religious groups during the colonial period. The authors analyse migration and patterns of segregation – whether individuals move into or out of places where people tend to share their own religion – and show that the upward mobility of Muslim people improves when they move, at a young age, to regions where upward intergenerational educational mobility is high. However, Muslim people are less likely than Christian people to move to these areas.

Why these patterns exist and persist therefore remain open questions. Alesina and colleagues acknowledge in their conclusion that “Our study begets more questions than it answers”. But the work is important for at least two reasons. First, education is considered a central component of economic growth and human development (a measure of people’s capabilities, see go.nature.com/41hoeso), so this work might help to explain persistent economic inequality both across and within countries.

Second, the findings invite us to consider what education has meant historically and how its meaning might vary across communities in the twenty-first century. Achieving high levels of formal education – perhaps more accurately described as mass schooling³ – and economic growth are often considered universal goals for countries, and ones on which they are assessed, ranked and categorized by international institutions such as the United Nations and the World Bank. But if countries and communities have historically and in the present opted for different kinds of education, in part because of the religious underpinnings of education systems, our understanding of current patterns of schooling will benefit from a deeper investigation of the relationship between religion and education.

The implications are not just theoretical. Policies designed to increase schooling rates often treat education as a set of politically neutral skills and knowledge, and thus focus on reducing resource constraints – building more schools, training more teachers or removing school fees, for instance. But education is fundamentally political, and its roots in Africa are far from neutral. On the contrary,

the backbone of today’s education sector has its roots in widespread attempts by Christian missionaries to convert others to Christianity, and in economic exploitation and political subjugation by colonial powers. Education was not then the human right that it is considered today, but a tool for colonizers to govern and extract resources with⁴. Seen through this lens, it is not at all surprising that distribution of education during the colonial period was both uneven and systematically related to religious demographics – and that the ramifications of this continue to be felt today.

Education is the means through which we transmit not only skills such as literacy and numeracy, but also ideas, norms and values. For this reason, religion might be a key factor in explaining patterns of education. The role of education in shaping beliefs also explains why religious organizations have taken a particular interest in its provision and regulation. Only when we consider this political aspect of education will we be able to make sense of the inequalities that Alesina *et al.* have aptly demonstrated.

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Astronomy

Atmosphere search off to a rocky start

Laura Kreidberg

Astronomers have used observations of infrared light to measure the heat emanating from an Earth-sized exoplanet known as TRAPPIST-1b. Their findings reveal that the planet is a bare rock, devoid of any atmosphere. **See p.39**

The exploration of terrestrial, or rocky, planets beyond the Solar System has long been the domain of science fiction. But real planets have been discovered orbiting stars other than the Sun, and, with the extraordinary observing ability of the James Webb Space Telescope (JWST), astronomers are finally able to bring these distant worlds into view. On page 39,

Greene *et al.*¹ used the telescope to detect heat coming from a terrestrial exoplanet called TRAPPIST-1b. The authors’ observations indicate a barren wasteland of a planet, with a hot surface that bears no trace of an atmosphere. The result is a setback for scientists hoping to find planets reminiscent of Earth in the TRAPPIST-1 system, but it is an exciting