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Training as a Rite of Passage: Kenyan Geothermal Professionals Gaining Seniority in Iceland

Julia Caroline Wummel
University of Cologne
jwummel@uni-koeln.de
https://orcid.org/0000-0002-1043-1416

Abstract

Following the transformative journeys of geothermal professionals throughout a training programme in Iceland and back to their homes in Kenya, I argue that such long-term training in foreign countries can function as a rite of passage. The collective experience of the geothermal training programme as a liminal space forges an egalitarian peer group, regardless of the members' biological age or usual workplace position. Simultaneously, it provides the opportunity to gain both social and cultural capital, which raises the professional status of the participants and, thereby, their seniority. The trainees become a tight-knit community of practice, so much so that they may support each other even years after they have come back to their regular jobs in their home country. At the same time, the members become part of a bigger, prestigious geothermal 'family' of international experts. This expert community exchanges knowledge and support globally and provides distinction to its members. Thus, attending this course goes beyond being taught geothermal skills and scientific knowledge. Attendees become legitimate actors of professional expertise that are more powerful than those who have not yet been exposed to the training. The Icelandic training programme 'makes' experts and can thus be seen as a rite of passage, providing a more senior status to initiates that can even mitigate age and gender discrimination to some extent.

Keywords: international expert community; green energy; cultural capital; gender discrimination; multi-sited ethnography

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About the author

Julia Caroline Wummel is a doctoral researcher in social and cultural anthropology at the University of Cologne, currently based at the Global South Studies Center. She received her master's degree from the University of Southern Denmark. Her current research interests include renewable energy development, epistemic communities, gender inequalities, and ethnographic research methods.

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Introduction

The GRÓ Geothermal Training Programme, under the auspices of UNESCO (GRÓ GTP), located on the outskirts of Reykjavik, is more than just a simple course of study. As I get off the bus my breath becomes visible in the cold air, which always smells a little like sulphur. I make my way to the fourth floor of a shiny black office building. Here, a wall full of framed pictures captures the essence of the programme. Dating back to 1979, the photos are not just decoration; they are a testament to the prestige of the community of graduates from this training programme. Each frame shows a group of smiling 'fellows' – which is what the geothermal professionals-turned-students participating in the course are called here. The backgrounds to the pictures show a kaleidoscope of Iceland's geothermal techno- and landscapes – mountains, volcanoes, and power plants. This underlines the versatility of the course and of its graduates. This morning, a group of current fellows is gathered around these pictures, pointing and chatting excitedly. "Oh, it's the wife of our geochemist god!" shouts one as he spots a familiar face. To be in the picture is a symbol of status in the close-knit world of geothermal expertise. I watch as they trace the history of their areas of expertise through these images, with each individual adding to a growing international legacy of geothermal skills and knowledge.

Beyond this hallway lies a spacious office area. The view from the panoramic office windows is constantly changing. This morning, the towering mountain range in the distance is hidden behind thick, wet clouds, leaving only the smaller hills visible. A silver river winds through the plain below, accompanied by Icelandic horses and mountain bikers. A few small trees, some houses, and purple flowers are scattered in front of it. The office building is separated from this scene by a busy road leading towards industrial buildings, some electricity poles, and the blueish hills. The desks in front are arranged in groups. Right at the door there are some yellow cards, spelling out words like "equality", "trust", "fairness", and "love". These are the programme's ground rules, it states on the paper. There is a kitchen with free coffee, tea, and cocoa. Sometimes there are cookies on the communal table. The large room is divided into two parts, one large and one small, by shelves which are filled with objects from far-away lands, some brought as gifts by the multicultural fellows, representing Asia, Africa, and Central and South America. There are also the occasional plaques spelling out gratitude from foreign governments and some souvenirs from geothermal conferences.

When there are no lectures, the office is filled with serious discussions and light-hearted laughter. Fellows huddle over colourful maps or are glued to their computer screens. The groups have been deliberately mixed in terms of gender, country of origin, and specialization. Although different languages are being spoken, the atmosphere remains inclusive. Behind the shelf, three PhD students from three different continents work alongside master's students from Ethiopia or Indonesia. At the far end, separated by glass but always with an open door, is the area for the handful of Icelandic staff who work here.

But it is the picture wall that remains the heart of GRÓ GTP's legacy. It serves as a powerful reminder of the passage of time and the unfolding story of geothermal trajectories around the world. To be immortalized here is to be forever part of a global lineage: a continuous yet tangled thread of different types of knowledge and skills stretching across the decades, prompting the fellows to reflect on their own contributions and aspirations, about what it means to become a part of the international community of geothermal experts trained in Iceland. GRÓ GTP is thus a global hub that legitimizes carriers of knowledge and 'makes' them become experts and, thus, seniors to other professionals who have not yet undergone such training.

In interviews I later conducted back in Kenya, many seniors of the geothermal world remembered their time in Iceland very fondly. They told me the names and current jobs of their former co-fellows. During one interview my interlocutor got a call from an Indonesian expert with whom he had attended the course years ago. The six-month GRÓ GTP forges relationships that last for years. People I spoke to often recommended other fellows they had gone to Iceland with for future interviews. The title of 'fellow' is kept forever; former participants will be referred to as 'ex-fellows', regardless of their current position or status. In this article, I will write about conducting ethnographic fieldwork at a training programme for professionals and explore how this training can bridge differences, mediate discrimination, and provide fellows with higher social and professional status when they return to their home countries. My focus is on the geothermal sector in Kenya. Having recently been ranked sixth in the world in terms of geothermal power generation capacity – and thereby coming ahead of Iceland which claims ninth place (Cariaga 2024) – and through providing consultancy as well as training to other African professionals, Kenya is an emerging knowledge hub and very much the leader in the geothermal sector in Africa. Geothermal exploration between energy landscapes of value and zones sacrificed for green energy development is impacting Kenyan peoples in a variety of ways (Greiner et al. 2023). However, geothermal energy has become the single most important energy source for the Kenyan grid, with 47% of electricity consumed in Kenya being generated by geothermal power (Omenda et al. 2023). A trend that is rising.

The geothermal training programme in Iceland began its activities in 1979 (Georgsson 2012). It was a part of Iceland's contribution to the capacity building of the United Nations University until 2020, when it changed UN partners to UNESCO and was rebranded as GRÓ GTP (GRÓ GTP 2019). The training is for the most part funded by the Icelandic Ministry of Foreign Affairs as official development assistance (Georgsson 2018). In 2021, the host changed from the National Energy Authority of Iceland to the state-owned but self-financing geothermal services company Iceland GeoSurvey (ÍSOR) (GRÓ GTP 2021). Other close collaborators include the University of Iceland (UI) and Reykjavík University (RU), since many of the lecturers and project supervisors are based there. There are also other Icelandic companies, both large and small, involved in the course (Georgsson 2020). These benefit by gaining exposure, connections for potential future assignments, and an insight into other countries' geothermal sectors. Iceland thereby increases its professional reputation and international popularity. In connection with the course, the fellows usually receive funding to cover travel costs, tuition fees, and living expenses in Iceland. However, some countries also fund (some of) their own fellows so that more of their nationals can participate in the training.

The first three Kenyan professionals joined the training programme as early as 1982 (Georgsson 2020). To this date, 152 Kenyan fellows have graduated from the programme, making Kenyans the largest proportion of overall participants (GRÓ GTP 2023). Over the years, GRÓ GTP has played an instrumental role in shaping the geothermal workforce in Kenya. Many alumni have gone on to high-level positions, as highlighted by Georgsson (2020), who provides a list of some high achieving alumni, including names and most senior roles held. I argue that GRÓ GTP can be seen as a rite of passage for Kenyan geothermal professionals, providing them with higher status by initiating them into the international community of experts and affording lasting bonds with other participants.

Background

A rite of passage is the transition from one social status to another. This process is relevant across various cultures and contexts. Classic examples are initiation rites during puberty, which mark a child's entry into the community of adults, or marriage rites, which signify transitions from single to married social status. In 1909, Arnold van Gennep identified a common structure of rites of passage as being divided "into rites of separation, transition rites, and rites of incorporation" (van Gennep 1960, 11). Through this process a person is first separated from their current social status, to then enter a liminal stage of being "betwixt and between" (Turner 1987), before being reintegrated into a new social group. The rite of passage to be discussed here is an initiation into a community associated with a higher status. The community in question can be described as a community of international energy experts. Historians and political theorists have long argued that experts and their networks have great influence. Mitchell (2002) argues that experts (from engineers to (political) scientists) and their inherent separation from their objects of expertise have shaped Egypt. Modern Europe was shaped by technoscientific experts and their networks of collaboration in and between nation states, their great political and social influence not always being unproblematic or compatible with democracy (Kohlrausch and Trischler 2014). However, these communities are necessary for informed decision making, due to the ever-growing amount of knowledge (Mason 2006). An edited volume by Pretel and Camprubí (2018) provides insights about experts as agents of globalization, political economies, cultural change, and interactions between countries in a variety of fields. Energy experts – just like their objects of expertise – are crucial to keep the world moving. High level international energy experts form a consensus through conversations at secluded, costly conferences (Mason 2015) and may begin to think like a cartel (Mason 2013). Communities and networks are also essential for the professionals themselves. For example, hydrocarbon experts in the USA rely on their connections to overcome periods of unemployment, which are typical in their jobs, and thereby to maintain appearances and life standards (Field 2021).

The importance of the concept of liminality in contemporary settings is illustrated through studies of graduation-related rites of leaving school and entering adulthood in the form of prolonged partying in Australia (Pettigrew et al. 2015) and South Africa (Rogerson and Harmer 2015). In a school context, rite of passage programmes can help individuals to reflect on identity (Curry 2016) and to accept adult duties and privileges (Warfield-Coppock 1992). In a professional context, Jack Haas sheds light on initiation rites that medical students and ironworker apprentices go through. Tests and degradation during the liminal stage of apprenticeship are supposed to prepare the trainees for their future membership in a prestigious group (Haas 1989). Mobility among crafts(wo)men in training (Greiner and Pröpper 2016), similarly to researchers going through ethnographic fieldwork as a "personal/professional initiation" (Clifford 1997, 21), are further instances of clearly defined rites of passage among professionals. In the 1970s in Germany there was a surge in craft apprentices returning to a traditional form of travelling before becoming professionals, in order to include liminal experiences in today's world (Greiner 2002). Their case bears similarities to the one described in this article, since the construction of a (group) identity built far from home, as well as the gaining of a "stamp of approval", play an important role for both groups. These examples underscore the role of rites of passage in marking significant life transitions, a notion supported by McLaren (1999), who advocates for their revitalization in modern institutions to aid meaningful societal integration.

The concept of a rite of passage has classically been a focus of social anthropology in Africa (Evans-Pritchard 1937; Bradbury 1973; Alber et al. 2008). Gerontocratic communities such as the Maasai (Anderson 2002), the Pokot (Bollig and Österle 2013; Bollig et al. 2014), the Turkana (Lienard 2016), and the Meru (Kwakye-Nuako 2024) use clearly defined rites of passage to move from one life stage to another. Young Chamu boys are initiated into age sets by going through rites of circumcision (Anderson 2002), which also include being taught how to behave in accordance with their new social status as grown men. By being in this liminal state together, they form a collective identity as one age set. Privileges are then progressively assigned to the age set as they grow older (Alber et al. 2008) and the older sets may exploit the younger ones for labour and resources (Lienard 2016).

Relative age has frequently been identified as a marker of authority. This stems from the observation that an "older individual is likely to have more experience, greater knowledge and social skills, larger social networks, and more group affiliations than younger individuals" (Lienard 2016, 108–109). With this accumulation of knowledge, economic, and social assets, as well as cultural understanding, older people often possess greater power (Alber et al. 2008). They may also be more suited to certain forms of labour. When missionaries trained young women to become midwives in colonial Tanzania, they were hardly accepted by the women giving birth, since they were seen to be lacking in practical and ritual experience, as well as social status (Kimani and Lindner, this volume). Since it is relatively easy to detect relative biological age, as in being older or younger, social organization that is based on age is common all over the world (Lienard 2016). Among the Yoruba, group members are expected to identify another person's relative age and social status by sight and interact accordingly, usually granting the senior the superior status. On the other hand, only being identified as relatively older does not always confer status. Although the Hai//om San use clearly distinct words to denote older and younger people, they are an egalitarian community that uses these denotations as basic information for social orientation, rather than using age as a marker of seniority as superiority. Other social mechanisms "take the sting out of difference" here, as Widlok (this volume) puts it. Similarly, age set affiliation and status are "not strictly dependent on biological age" (Anderson 2002, 301). Extending this discussion, Sidanius and Pratto (1999) found that social dominance can be granted on the basis of age, gender, or arbitrary group affiliation. In their study, seniority was based on the length of group membership, rather than age, in both humans and macaques. This echoes Baker and Eaton (1992), who found that long-term group membership often trumps biological age in determining authority. Although biological age is important among the Yoruba, so too is who 'came first', or social and financial achievement. Thus, wives are ranked according to who joined the compound first, rather than according to biological age, and a rich person may trump an older person in superiority (Agwuele, this volume).

By going through an initiation, a rite of passage that transforms the person's social status and provides membership to a new group (van Gennep 1960), one earns certain forms of capital. There are various types of capital according to Bourdieu (1984): economic (money and assets), social (connections to other people), and cultural (being able to 'fit in'). The higher the amount of capital(s) someone possesses, the higher is their social status, since capital can be exchanged to a certain degree (Bourdieu 1986). While a small amount of economic capital may be earned in the form of per diems during the training, the main forms of capital gained here are social and cultural capital, which bring symbolic as well as material benefits. Social capital is increased by forming durable relationships with companions going

through the same rite and being initiated into the same group. Moreover, the fellows bond with the teachers, who take on the role of guides. All of these connections are "set within the logic of knowledge and acknowledgment, [so social capital] is fundamentally a symbolic power" (Bourdieu 1986, 24). It is about the mutual recognition of the group members, so one member's reputation will be backed by the collective prestige of the rest of the group. In addition to the symbolic profits of distinction and recognition that group membership holds, there are also material benefits in the form of getting help or other kinds of services as a result of being connected to this group of people. The cultural capital acquired in the training is institutionalized through a diploma and embodied as a new way of acting, carrying oneself with more confidence, or being able to fit better into new contexts. Cultural competence is acquired through exposure to a different (professional) culture in Iceland. The symbolic property of the cultural capital here is that it gives recognition to the participants (Bourdieu 1984), while the material benefits are that they have learned new ways of solving geothermal problems, tangible skills, and knowledge. Capital is symbolic when it "is unrecognized as capital and recognized as legitimate competence" (Bourdieu 1986, 18). This is important, because the Kenyan fellows already have (most of) the knowledge and skills they need for their jobs in the geothermal sector, since a condition for participating in the training is to have been employed for at least one year. However, the training changes the way they act and are *acknowledged*. It increases their prestige and social status.

Methods: Following the professionals

This paper is based on a multi-sited ethnography. Following the people (Marcus 1995, 106) involves tracking individuals or groups as they move through different spaces and contexts. This approach allows researchers to observe how cultural practices, beliefs, and identities are shaped by interconnected places. I followed geothermal professionals as they participated in GRÓ GTP in Iceland, and as they travelled back and reintegrated into their workplaces in Kenya. My positionality as a young, White woman mattered in both contexts. Due to being close in age to the GRÓ GTP fellows, I could fit into the group quite easily. In Kenya, I then felt that as a woman I was not seen as much of a threat, while the combination of being White and having been to Iceland beforehand gave me some legitimacy. I will explore this issue in detail elsewhere.

In the beginning there was some hesitancy about my identity as a researcher. It took some time and interaction to overcome this. To start my fieldwork on geothermal experts, I wanted to observe and ideally participate in what is probably the most important course for Kenyan professionals: the GRÓ Geothermal Training Programme under the auspices of UNESCO in Iceland. The process of getting approval involved explaining my project and research methods in detail via video calls and emails. In the end, I was allowed to be a part of the class for about six weeks. I then returned for a further two weeks to attend the presentations of the three-month projects and to celebrate the fellows' graduation with them. During the training, the general atmosphere is laid back – this is not to say that the course is not demanding, but being in the geothermal sector is a common ground that is easy to build on, so there is frequent story-telling and laughter. Their similar experiences enable the fellows to bond quickly. Team building is supported by frequent get-togethers, (dinner) parties, excursions, and hikes. One of the concerns of the Icelandic course organizers was that my presence would disrupt the group when they should be "bonding and building relationships" (quote). However, once I was in Reykjavik and in the classroom, it was easy to integrate into the group. The programme is very egalitarian: everyone there is considered

a student and acts like a student, regardless of their actual position in their home countries, their biological age, or their gender. During my time in Iceland, I conducted 24 long, recorded interviews, most of them with Kenyan professionals who were enrolled in the course or in master's or PhD degrees. Seven interviews were done with Icelanders involved in the course as teachers. The reassurance that the interview was all about personal perceptions and experiences proved to be crucial in allowing free-flowing conversations. Countless informal participant observations and chats gave context to the recorded interviews. This built a foundation of trust and a network without which the second part of this research – conducted in Kenya – would not have been possible.

A week after returning from Iceland, I followed the Kenyan fellows back to their home country. There, I participated in most of the 21-day short course that the Icelandic government and GRÓ regularly organize together with the two parastatals that deal with geothermal energy in Kenya: the Kenya Electricity Generating Company (KenGen) and the Geothermal Development Company (GDC). So far, 990 Kenyans have participated in the short course. Although 817 of them were men (GRÓ GTP 2023), GRÓ GTP has been striving for gender equality in recent years. During the course, interested participants are interviewed for a chance to 'go to Iceland', that is, to attend GRÓ GTP the following year. Because of this, potential students often perceive the short course in Kenya as a prerequisite, a first step, to being able to go. This is a misconception; the short course is not a requirement for the GRÓ GTP six-month course. Conditions for being eligible are a relevant university degree and fluent English skills, as well as having had a permanent position at a "non-private energy company/utility, research institution, or university in their home country" (Georgsson et al. 2021, 4) for at least a year. New fellows are preferably younger than 40 years of age, so that they can benefit for most of their careers, and share the acquired knowledge throughout their employment. Most of the short course in Kenya is taught by Kenyan alumni of GRÓ GTP. To find out about the impact GRÓ GTP can have, I recorded 17 interviews, mostly with ex-fellows but also with some prospective ones. Field trips and practical applications were a part of this course as well, but the group was far less tight-knit and the atmosphere less relaxed due to a very strict timetable and exhausting classes for three weeks without one day off. After the course ended, I spent a further six months in Kenya, which I divided more or less equally between KenGen and GDC, visiting most of their scientific and technical departments and adding another 45 interviews, countless informal discussions, and daily participant observations in the offices, laboratories, and geothermal fields. Throughout my time in the field I increasingly learned about technical issues, which gave me more credibility and acceptance than my anthropological background. However, taking the less informed position in the interviews also prompted interlocutors to explain more than they might have done if I had had a natural science or engineering background.

In total, I am drawing on about ten months of participant observation, recurring interviews with 73 interlocutors, and informal conversations that happened over a timespan of about 19 months. Going back and forth between the field and the desk, new questions and themes surfaced. Data analysis was done reiteratively during the times at the desk and is still ongoing in the context of the larger, interdisciplinary CRC-TRR 228 "Future Rural Africa", looking at land-use change and its socio-economic impacts, and the writing of my PhD dissertation.

Training as a rite of passage for the geothermal community in Kenya

In this article, I explore how GRÓ GTP acts as a rite of passage for the Kenyan professionals participating in it. Like generations of geothermal experts before them, they gain confidence and status through the training. Thereby, they earn precious symbolic capital, rather than just the practical knowledge they need for their jobs. The fellows who come to the training are already professionals and have often worked in the geothermal sector for seven or more years. Much of the knowledge gained from the course is about the bigger picture of geothermal energy and seeing how things are done in Iceland. Thus, even though relevant knowledge is taught, the scope is broader than only teaching readily applicable job skills. The GRÓ GTP can be seen as a change of condition for the Kenyan fellows. It changes their status from professionals to legitimized experts. This transition will be described according to the common structure of a rite of passage identified by Arnold van Gennep (van Gennep 1960).

Becoming an 'age' cohort: Forging a community during the liminal state

The first stage of a rite of passage is a rite of separation. In this case, the separation stage includes applying for a visa and flying across the globe to Iceland. This is a literal separation in the form of travelling: saying goodbye to family, friends, and colleagues for six months or more. In this article, however, I will concentrate on the two phases that follow.

The group of GRÓ GTP participants is usually colourful, diverse in nationality, gender, and age. From 1979 to 2022, 766 fellows came from 65 countries (Axelsson et al. 2023). The participants are usually nominated by their organizations, then GRÓ GTP interviews them and selects the ones fitting into their criteria for that year, considering the offered specializations, as well as the country and gender balance. If a company pays for its own participants instead of applying for the Icelandic funding, there is greater flexibility. Nonetheless, the participants need to fulfil the GRÓ GTP requirements. During their training, the fellows are in a state of transition. They change their status from professionals, sometimes even as senior managers, to students. They thereby submit to the liminal stage of this rite of passage and are 'in-between': they no longer have their previous professional status but are not yet initiated into the community of internationally trained experts (Turner 1983, 1987; see also Haas 1989). Regardless of biological age, gender, or position in their home country, in Iceland everyone is treated equally as part of the group. No matter whether they are engineers, chemists, project managers, geologists, or specialized in other disciplines, they all take part in classes, group work, and excursions. This dissolution of their – sometimes quite high – status, however, goes hand in hand with growth. Free from any hierarchical or institutional ties, the fellows can act as they are, without observing any kinds of protocol. This relaxed equality of status made it easy for me to interact naturally with everyone, as in the end I am also a (doctoral) student. Given that my identity as a researcher was clear from the start, I was accepted quickly. Parallel to what Turner is describing, and as mentioned, deep friendships between the fellows are encouraged and there is "complete equality" among the "neophytes" (Turner 1987, 9). As Turner (1987) observes, such camaraderie in communitas often "transcends distinctions of rank, age, kinship position, and (…) even of sex" (Turner 1987, 10). And, I might add, even of professional expertise and seniority. However, they are *submitting as students* to Icelandic professionals. The same professionals they may have interacted with as colleagues before, now become their teachers during the course. By giving the control to their teachers, they can let go of their usual responsibilities and they have to let go of their usual entitlements. The student-teacher relationship may be a consensual and even a very friendly one,

yet it is not one of equal power. The Icelandic teacher or advisor has consensual power over the student (Haugaard 2003). This contrasts with the symmetrical ties between the students and perpetuates the North/South differences often seen in programmes of development aid; see, for example, Crewe and Harrison (1998) and Menashy (2019).

The training programme provides "ultimate standards of reference" (Turner 1987) in the geothermal world. Although the fellows are often already experienced, Icelanders may practise their profession, or parts of it, in a different way. As mentioned earlier, the most important part of the course may refer to a greater understanding of the bigger picture and to showing how "the Icelanders do it", but there are also tools and standard procedures taught that can later be applied in daily working life. Many ex-fellows recounted that they would still seek their Icelandic supervisors' advice and support, even years after finishing the training. The course consists of (1) an introductory part, including a group work project, (2) a specialized training programme where the fellows are divided into several disciplines, such as geology, reservoir engineering, geothermal utilization, and project management, (3) a main excursion, and (4) an individual project similar to a bachelor's thesis, supervised mainly by Icelandic practitioners and scholars (Georgsson 2018). The course is geared towards creating a community of equals: by mixing the nationalities, ages, and genders, former group structures and thinking are being broken down and mixed up. Learning together – especially during the group work – prompts the fellows to help each other and get better by practising together. They thereby form a new community of practice (Wenger 1998). The individual projects during the course are often somewhat collaborative, since the fellows help each other out by sharing experiences and methods from their countries, forging relationships as well as gaining new skills and knowledge. Their project is often something the fellows have been asked to investigate by their supervisors at home. However, some choose a topic according to interest, or with help of their Icelandic supervisors. These project papers are checked, changed if necessary, and then published on the GRÓ GTP website. Once the fellows are back in their home countries, the projects should be presented at the workplace to disseminate the ideas. The outcomes differ. While many projects have not found any practical applications and were a purely academic exercise, some ex-fellows are still hopeful that their projects will be implemented in the future, as some projects already have been. Others are using their results in their current position as a template for new work projects. The exposure to professionals from other nations and their methods was also said to have opened their minds to out-of-the-box solutions. Exposure to a variety of people from other cultures formed the fellows' understanding of the world and contributed to personal growth associated with language and intercultural skills beyond the geothermal sector.

Common experiences are the second pillar of the training. I witnessed and participated in excursions to power plants, geothermally heated greenhouses where tomatoes or bananas are grown, and the Blue Lagoon – an iconic pool of geothermal wastewater which went viral and is accordingly popular among tourists. There was also a three-hour hike where we waded through rivers and fought against the horizontal rain, in the end all cuddling together and dancing to Icelandic folk songs to keep warm. Some of the fellows described this as a near-death experience and it became a favourite anecdote to keep remembering. Moreover, the fellows' free time was filled with swimming lessons and frequent (dinner) parties. The swimming lessons were a part of the cultural programme, since apparently in Iceland no one can graduate high school without learning how to swim. During the parties, people shared their local

homemade food, stories, (card) games, and dances. These interactions contributed to the formation of a common or collective identity – this was beautifully illustrated by the graduation speech of one fellow, who grouped his colleagues according to their characteristics and personalities, thereby disregarding gender, specializations, and nationalities. This further emphasized their commonalities, as did the entire time in Iceland. The group of fellows thereby became an egalitarian community with strong bonds.

However, some people may fail to comply and may drop out of the course. Those people will then be figuratively and literally 'out of the picture', since they will no longer be featured on the framed picture on the wall (see introduction) and will lose all the capital gained, their distinction, and, therewith, their place in the community.

Returning home: Incorporation as a legitimate actor of knowledge

When coming back and restarting their old jobs, the now ex-fellows felt a change in attitudes towards them. Many of the older ex-fellows, who had been to GRÓ GTP years earlier, recounted this experience. Some were not entirely sure if it was really because of the training, or because of the time that had passed since they had been employed, yet they all recounted noticing their greater importance at the workplace. Their colleagues took them more seriously and their bosses considered them for new, more important roles and projects. As a male Kenyan scientist (age 36) stated: "Going to Iceland played a big role in being considered for the project I am doing right now." In addition, when they returned from Iceland, they were often asked to teach on the short course the year after their return, and some were even asked to teach the same year.

The symbolic capital that they had gained during the rite of passage that they went through made them advance and become a part of an exclusive community. It is not only their own 'age cohort', that is, their own group of fellows, that they connect to, but the larger community of internationally trained geothermal experts which gives them seniority. This community has been described to me as small but growing, and close-knit. When only a first name is mentioned, community members will already know who is referred to: "Geothermal is a small world, eventually you get to know each other" (female Kenyan scientist, 28 years). The ties the fellows have made during the initiation period are remade and fortified at conferences and other training programmes that they attend after GRÓ GTP. There are regular alumni meetings and reunions of specific years or 'batches' of fellows. This strengthens and further increases their social capital.

Membership in this community awards distinction. Thus, the ex-fellows are now seen and also see themselves as experts with a certain seniority. Although this did not necessarily mean a new position or a higher salary, it did mean a higher status in daily office life, characterized by greater appreciation than they had experienced before they went to Iceland. All genders reported this; however, women were most open about how they felt more confident and respected after their stay in Iceland. They would now raise their voices securely during meetings, since they had been given the seal of approval, proving that they really knew what they were talking about. To be an expert in the geothermal sector in Kenya, as described by my interlocutors, means having experience and exposure to international settings. Both of those are gained at the training programme in Iceland. During my time in Iceland, stories were being told about women who changed completely during and because of the course and the resulting exposure to different social circumstances: women who had previously been broken by the patriarchy, women who had given up, or women who were just very shy. The freedom they had during the course in Iceland, together with the comradeship and

their success in classes, made them more confident to be on their own. When going back to their countries some became activists and some became mentors, fighting for gender equality in their own ways: "After all these opportunities (trainings) that we've had, are we just going to sit back? And do nothing about it? Well, are you willing to do something? To raise other women?" (female Kenyan scientist, 52 years). Thereby, this course does much more than just teaching geothermal knowledge and skills. Women and men gain a professional and personal advantage. For women, this advantage can make up for or at least alleviate gender discrimination.

Among and beyond the fellows: Distinction and discrimination

The geothermal experts who have shared the transformative experience of training together at GRÓ GTP maintain a strong bond. Despite time and distance, they continue to rely on each other professionally and personally: "I think what represents geothermal is, what comes first to mind is the community. (…) It's like one family, able to share ideas and willing to do so. And also due to the GTP programme. I mean, that has also created a very important network in the industry because it's a small part of the power generation worldwide" (middle-aged Icelandic engineer, involved in GRÓ GTP as a teacher for ten years). Just as described by Turner (1987), these ties persist long after the rites are over. This fact can mediate multiple types of discrimination in favour of the fellows and help them navigate hierarchies and challenging situations.

There are strict rules and hierarchies in work life in Kenya. Women only get three months of maternity leave, often working up until the very last day of their pregnancy, and men only get two weeks of paternity leave. Structures at the companies are hierarchical, to a point that "in Kenya the boss knows everything, if you know more and show it your career will die", as one male Kenyan scientist in his 50s put it. Doors here are rarely open, but rather are guarded by secretaries restricting entry. In this context, close colleagues may collaborate and help each other. This is not solely the case for ex-fellows, but also for colleagues that are close for other reasons. However, fellows will follow each other's career paths. They will try to support and have each other's backs, even years after they have returned. When they meet at their offices, courses, or conferences, they indulge in collective memories. These experts hold each other and their skills in high regard, reaching out when in doubt. It is not only Kenyans who consult among each other, but all the nationalities in the group. Getting advice from countries like the Philippines, Iceland, or El Salvador is only a phone call away, no matter where one is currently working. Even though their ties to their former teachers may never become as symmetrical as the ones to their peers, the learning is not a one-way street. Many teachers of GRÓ GTP stated that they had learned a lot from their students, not only about their cultures and countries, but also about technical issues and geological properties. WhatsApp groups made during GRÓ GTP are often active for many years, commonly celebrating each other's achievements, birthdays, and public or religious holidays. The community of geothermal experts thus draws close ties across the globe.

Outside this network of mutual support, the larger professional environment in Kenya presents more challenges. In the broader Kenyan context, where gerontocratic values often dominate, younger professionals – and particularly women – find themselves navigating a complex landscape of age and gender discrimination. Since the group of Kenyans I followed – like others before – was mainly in their early 30s, age discrimination played a role for everyone. Both potential fellows and older ex-fellows recounted similar stories. One young male scientist (31) had been denied the opportunity of going to Iceland because his colleague, "who was a little bit older than me",

had also applied and was given preference because of it. Even for those who go to Iceland, the seniority gained there does not always trump biological age: "Everyone is being taken more seriously after coming back from Iceland, but there are also old guys who won't listen" (male Kenyan scientist, 39 years). Therefore, GRÓ GTP can mediate age discrimination only up to a certain point. However, GRÓ GTP actively promotes gender equality and SDG 5 is explicitly mentioned in their programme. One of the measures taken has been to establish a gender-based candidate selection process, aiming for equal participation: "GTP insisted: this time you are sending us women … if it were not for Iceland insisting on having women candidates nominated, then some of us would have not gone to Iceland" (female Kenyan scientist, 52 years).

Young female engineers, despite holding positions of authority within power plants or in laboratories, frequently face scepticism and the undermining of their position by older male subordinates. While the minority status of women in the geothermal sector often brings them together and creates support groups (Ómarsdóttir et al. 2021; Wummel forthcoming), this solidarity is strained under the weight of generational and hierarchical pressures. Older women often adhere to traditional hierarchies and sometimes inadvertently perpetuate inequalities, aggravating the struggles of their younger colleagues. While gender discrimination is well known and openly discussed, its intersection with age discrimination is less widely known and understood. When older women deny younger women professional opportunities, this is often met with incomprehension and frustration. Older women pioneering in the male-dominated geothermal sector have not had an easy time doing so. One of their biggest worries has been that a subpar performance will mean that other women will not be allowed to enter the sector. Therefore, they have worked until the point of exhaustion to avoid blocking opportunities, and may therefore be extra critical towards women following in their footsteps. This also means that there may be differences in how the performances of young men and women are measured, no matter whether the judge is male or female – and the judgement may be even harsher if the superior is female. Most of the younger women I interviewed told me they had worked at least twice as hard as men to earn their place. Furthermore, even though GRÓ GTP raised the fellows' status by providing symbolic capital, experts who had attended previously, who had collected degrees and long-term experience in other international contexts, or who are just higher ranked in the company, continued to be senior to fresh ex-fellows. As a 33-year-old Kenyan woman who has been employed in the industry for 13 years stated: "Older people have a higher level especially due to the experience level. Education helps especially in making decisions at work, and it seems one is taken a bit more seriously especially among peers, although the age bias does not go away." That being the case, an external evaluation of GRÓ GTP confirmed that: "A majority of fellows report that they have been promoted upon return to their workplace as a result of the training. The vast majority of fellows also gained confidence and motivation, applied new knowledge, approaches, and skills, and were handed greater responsibility" (Ljungman et al. 2017, 124–125). One of the greatest examples here is Dr Pacifica Ogola. She attended the GRÓ GTP course in 2004 (see also Georgsson (2020)). Following her attendance she was offered a PhD scholarship by the GTP. Shortly after finishing her PhD in 2013 – as the very first African in Iceland ever – she became the Director of Climate Change at the Kenyan Ministry of Environment and Forestry. When I talked to her at the end of 2022, she stated: "And one of the things that, what made this happen is because of the fact that I have a PhD. So I'm always grateful to the government of Iceland for that particular

support. So I can see that after [the training], my life has changed dramatically."

Therefore, having attended GRÓ GTP lessens the chance of falling victim to age and gender discrimination even though it does not disappear, since participants' colleagues and superiors respect the status gained in Iceland and take the ex-fellows' opinions more seriously. The ex-fellows themselves may also act more confident and competent due to the symbolic capital acquired during the course. Furthermore, this stamp of approval and the associated status increases the participants' chances of advancing in the ranks more rapidly.

Conclusion: Increasing seniority through a rite of passage

Being in the Icelandic photo becomes significant in this context. For those depicted on the wall, the image represents not only a moment of achievement, but also a time of equality that overcomes typical societal divisions. It serves as a visual reminder of a time when biological age, hierarchical position, and gender did not matter in their group, and when they were welcomed into an international community of experts. As the fellows grow their careers in Kenya, their experiences in Iceland benefit them not only through the skills and knowledge they have gained but through the complexities of professional and social hierarchies. Being included in the picture provides an advantage, as does gaining confidence and seniority due to their lasting connections *and* due to the recognition of the Icelandic stamp of approval.

This article demonstrates how the training programme facilitates professional advancement and sheds light on the persistent societal barriers that the professionals face in their home country, as well as how these may be mediated by prestigious training programmes. In the international community of geothermal experts, biological age is far from being the only factor that counts in assessing seniority. Experience, gender, and access to foreign training play a stronger role. GRÓ GTP facilitates the formation of relationships and the acquisition of status, which benefits the fellows in their work environments at home. The social and cultural capital earned during the course gives the ex-fellows symbolic power, next to the material benefits that it holds. This means that they gain seniority that allows them to be taken more seriously, to be seen as more competent, and thereby to be considered for more important tasks. It also means that gender and age discrimination can be weakened through their new connections and prestige. Therefore, GRÓ GTP is a valuable training programme which has a big impact on the Kenyan geothermal sector.

Following the Kenyan geothermal experts from their training programme in Iceland back to their professional lives in Kenya illustrates the complexities and dynamics of knowledge transfer, social hierarchies, and professional development in a global context and their impact on local status and seniority. Therefore, I recommend this multi-sited method for creating detailed ethnographies of people moving through global and local spaces. Further research may include exploring why international exposure is necessary to gain this advantage in Kenya, as well as diving deeper into the Icelandic side of the story. The findings of this ethnographic exploration have implications beyond the geothermal energy sector. They address wider issues of international cooperation, the impact of cultural and professional interactions, and the striving for inclusivity in the fields of science, technology, engineering, and maths (STEM). This study also contributes to the literature on communities of international experts, their networks, and training programmes. Specifically, global and local (in)equalities become visible, contributing to a more nuanced and humanized view of energy experts. Finally, I would like to emphasize the need for a deeper understanding and acknowledgment of the societal dynamics

that professionals from diverse backgrounds encounter, especially, but not only, in contexts of energy. This study advocates for a more inclusive and nuanced approach to international training programmes, which not only foster technical expertise but also address the complex interplay of age, gender, and seniority.

References

Alber, Erdmute, Sjaak van der Geest, and Susan R. Whyte. 2008. "Generational Connections and Conflicts in Africa: An Introduction." In *Generations in Africa: Connections and Conflicts*, edited by Erdmute Alber, Sjaak van der Geest, and Susan R Whyte, 1–23. Münster: LIT Verlag.

Anderson, David M. 2002. *Eroding the Commons: The Politics of Ecology in Baringo, Kenya, 1890s–1963.* Oxford: James Currey.

Axelsson, Gudni, Ingimar G. Haraldsson, Málfrídur Ómarsdóttir, and Vigdís Hardardóttir. 2023. "GRÓ Geothermal Training Programme in Iceland: Geothermal Capacity Building in Developing Countries for 45 years." Paper presented at World Geothermal Congress 2023, Beijing, China, April 17 – 21, 2023.

Baker, Paul M., and G. Gray Eaton. 1992. "Seniority Versus Age as Causes of Dominance in Social Groups: Macaques and Men." *Small Group Research* 23 (3): 322–343.

Bollig, Michael, and Matthias Österle. 2013. "The Political Ecology of Specialisation and Diversification: Long-term Dynamics of Pastoralism in East Pokot District, Kenya." In *Pastoralism in Africa: Past, Present and Future*, edited by Michael Bollig, Michael Schnegg, and Hans-Peter Wotzka, 289–315. New York, Oxford: Berghahn Books.

Bollig, Michael, Clemens Greiner, and Matthias Österle. 2014. "Inscribing Identity and Agency on the Landscape: Of Pathways, Places, and the Transition of the Public Sphere in East Pokot, Kenya." *African Studies Review* 57 (3): 55–78.

Bourdieu, Pierre. 1984. *Distinction: A Social Critique of the Judgement of Taste.* Cambridge, Massachusetts: Harvard University Press.

Bourdieu, Pierre. 1986. "The Forms of Capital." In *Handbook of Theory and Research for the Sociology of Education*, edited by J. Richardson, 15–29. Westport: Greenwood.

Bradbury, Robert E. 1973. *Benin Studies*, edited by Peter Morton-Williams. London: Routledge.

Cariaga, Carlo. 2024. "ThinkGeoEnergy's Top 10 Geothermal Countries 2023 – Power Generation Capacity." ThinkGeoEnergy, 08/01/2024. Accessed February 15, 2024. https://www.thinkgeoenergy.com/thinkgeoenergys-top-10-geothermal-countries-2023-power-generation-capacity/.

Clifford, James. 1997. *Routes: Travel and Translation in the Late Twentieth Century*. Harvard University Press.

Crewe, Emma, and Elizabeth Harrison. 1998. *Whose Development? An Ethnography of Aid.* Zed Books.

Curry, Marnie W. 2016. "Will You Stand for Me? Authentic Carino and Transformative Rites of Passage in an Urban High School." *American Educational Research Journal* 53 (4): 883–918.

Evans-Pritchard, Edward Evan. 1937. *Witchcraft, Oracles and Magic Among the Azande*. Oxford: Clarendon Press.

Field, Sean. 2021. "Power and Precariousness in the Expert Hierarchies of the US Hydrocarbon Industry." *Critique of Anthropology* 41 (3): 303–319.

Georgsson, Lúdvík S. 2012. "Geothermal Training for Africans: The Operations of the UNU-GTP in Iceland and Africa and Possible Future Development." Paper presented at 4th African Rift Geothermal Conference, Nairobi, Kenya, 21-23 November 2012.

Georgsson, Lúdvík S. 2018. "Forty Years of Geothermal Training in Iceland – History, Status and Future Direction." Paper presented at 40th Anniversary Workshop of the United Nations University Geothermal Training Programme: Organized by UNU-GTP, Reykjavík, Iceland, 26 April 2018.

Georgsson, Lúdvík S. 2020. "UNU Geothermal Training Programme 1979-2019: The Legacy in Africa." Paper presented at 8th African Rift Geothermal Conference, Nairobi, Kenya, 2-8 November 2020.

Georgsson, Lúdvík S., Ingimar G. Haraldsson, and Málfrídur Ómarsdóttir. 2021. "UNU Geothermal Training Programme in Iceland: Sharing Geothermal Knowledge with Developing Countries for 41 Years." Paper presented at World Geothermal Congress 2020+1, Reykjavik, Iceland, April – October 2021.

Greiner, Clemens, and Michael Pröpper. 2016. "Hands, Skills, Materiality: Towards an Anthropology of Crafts." In *Migration – Networks – Skills: Anthropological Perspectives on Mobility and Transformation*, edited by Astrid Wonneberger, Mijal Gandelsman-Trier, and Hauke Dorsch, 209–230. Bielefeld: Transcript Verlag.

Greiner, Clemens, Britta Klagge, and Evelyn Atieno Owino. 2023. "The Political Ecology of Geothermal Development: Green Sacrifice Zones or Energy Landscapes of Value?" *Energy Research & Social Science*, 99.

Greiner, Clemens. 2002. „Tippelei–Wandergesellen und reisende Handwerkerinnen." *Ethnoscripts* 4 (1): 29–40.

GRÓ GTP. 2019. "UNU-GTP to Part Ways with UNU and to Join UNESCO." GRO News, 26/09/2019. Accessed February 15, 2024. https://www.grocentre.is/gtp/media-gtp/news/unu-gtp-to-part-ways-with-unu-and-to-join-unesco

GRÓ GTP. 2021. "New Host Institute for GRÓ GTP." GRO News, 12/02/2021. Accessed February 15, 2024. https://www.grocentre.is/gtp/media-gtp/news/new-host-institute-for-gro-gtp

GRÓ GTP. 2023. "Country Profile Kenya." Kenya, no date. Accessed February 15, 2024. https://www.grocentre.is/gtp/moya/gro/index/countries/ke

Haas, Jack. 1989. "The Process of Apprenticeship: Ritual Ordeal and the Adoption of a Cloak of Competence." In *Apprenticeship: From Theory to Method and Back Again*, edited by Michael W. Coy, 87–113. Albany: State University of New York Press.

Haugaard, Mark. 2003. "Reflections on Seven Ways of Creating Power." *European Journal of Social Theory* 6: 87–113.

Kohlrausch, Martin, and Helmut Trischler. 2014. *Building Europe on Expertise: Innovators, Organizers, Networkers*. Basingstoke: Palgrave Macmillan.

Kwakye-Nuako, Kwasi. 2024. "A Preservation from Oral and Practiced Rites of Passage in an African Tradition: Towards a Search for Identity in a Changing World in the Written." *Journal of Black Religious Thought* 2 (2): 122–139.

Lienard, Pierre. 2016. "Age Grouping and Social Complexity." *Current Anthropology* 57 (13): 105–117.

Ljungman, Cecilia M., Goncalo Carneiro, Kristoffer Engstrand, and Juliet Newson. 2017. *Evaluation of the UNU Programmes in Iceland - Final Report*. Stockholm: NIRAS Indevelop

Marcus, George E. 1995. "Ethnography in/of the World System: The Emergence of Multi-Sited Ethnography." *Annual Review of Anthropology* 24: 95–117.

Mason, Arthur. 2006. "Images of the Energy Future." *Environmental Research Letters* 1 (1): 014002.

Mason, Arthur. 2013. "Cartel Consciousness and Horizontal Integration in Energy Industry." In *Cultures of Energy: Power, Practices, Technologies*, edited by Sarah Strauss, Stephanie Rupp, and Thomas Love, 123–144. London and New York: Routledge.

Mason, Arthur. 2015. "Inside the Energy Salon: Installation and Illusions of Finality." *Journal of Business Anthropology* 4 (1): 36–53.

McLaren, Peter. 1999. *Schooling as a Ritual Performance: Toward a Political Economy of Educational Symbols and Gestures*. Lanham, MD: Rowman & Littlefield Publishers.

Menashy, Francine. 2019. *International Aid to Education: Power Dynamics in an Era of Partnership.* New York and London: Teachers College Press, Columbia University.

Mitchell, Timothy. 2002. *Rule of Experts: Egypt, Techno-politics, Modernity*. Berkeley, CA: University of California Press.

Ómarsdóttir, Málfríður, Thecla M. Mutia, and Sylvia J. Malimo. 2021. "Assessing the Status of Women in Geothermal Development: A Comparative Study of Iceland and Kenya." Paper presented at World Geothermal Congress 2020+1, Reykjavik, Iceland, April – October 2021.

Omenda, Peter, Cornel Ofwona, Peketsa Mangi, and Chrispin Lupe. 2023. "Country Update Report for Kenya 2020–2022." Paper presented at World Geothermal Congress 2023, Beijing, China, 9-11 October 2023.

Pettigrew, Simone, Nicole Biagioni, Mike Daube, Sandra C. Jones, Tanya Chikritzhs, and Gary Kirby. 2015. "Understanding and Addressing the Schoolies Phenomenon." *Australian and New Zealand Journal of Public Health* 39 (2): 135–140.

Pretel, David, and Lino Camprubí, eds. 2018. *Technology and Globalisation: Networks of Experts in World History*. Palgrave Macmillan.

Rogerson, Jayne M., and Devin Harmer. 2015. "A 'Rite of Passage' Youth Festival in South Africa: The Origins, Attendees and Organization of Matric Vac." *Nordic Journal of African Studies* 24 (3&4): 221–240.

Sidanius, Jim, and Felicia Pratto. 1999. *Social Dominance: An Intergroup Theory of Social Hierarchy and Oppression*. Cambridge: Cambridge University Press.

Turner, Victor. 1983. "Liminal to Liminoid, in Play, Flow, and Ritual: An Essay in Comparative Symbology." In *Play, Games and Sports in Cultural Contexts*, edited by J. C. Harris and R. J Park, 123–164. Champaign, Illinois: Human Kinetics Publishers, Inc.

Turner, Victor. 1987. "Betwixt and Between: The Liminal Period in Rites of Passage." In *Betwixt and Between: Patterns of Masculine and Feminine Initiation*, edited by Louise Carus Mahdi, Steven Foster, and Meredith Little, 3–19. Chicago, IL: Open Court Publishing Company.

van Gennep, Arnold. 1960. *The Rites of Passage*. Translated by Monika B. Vizedom and Gabrielle L. Caffee. London: Routledge.

Warfield-Coppock, Nsenga. 1992. "The Rites of Passage Movement: A Resurgence of African-Centered Practices for Socializing African American Youth." *Journal of Negro Education* 61 (4), 471–482.

Wenger, Etienne. 1998. *Communities of Practice: Learning, Meaning, and Identity. Learning in Doing: Social, Cognitive and Computational Perspectives*. Cambridge: Cambridge University Press.

Wummel, Julia. 2024. "Gender in the Geothermal Sector: A Closer Look at Kenyan Women." Paper presented at 10th African Rift Geothermal Conference, Dar es Salaam, Tanzania, 23-25 October 2024.