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Labour in Mining Working Group
Sessions and Panels Proposal

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Session 1:

Mining Mobilities across the Globe: Labour, Science, and Knowledge Circulation in Mining (15th-21st Century)

Organisers: Dr Francesca Sanna; Gabriele Marcon
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Mining mobility and knowledge circulation have played a pivotal role in extractive industries worldwide. The movement of workers, technologies, and knowledge has been mediated by state authorities, corporations, and subcontractors through alluring and forced forms of recruitment. Alongside these trajectories, men and women from neighboring and distant territories moved to newly reopened mines to search for new deposits and improve their social and economic conditions.

When following mediated and non-mediated trajectories, workers produced new techniques and used various systems of knowledge about nature and the environment which were often adopted and/or expropriated from local and Indigenous experts. This renewed attention on mobility and circulation has shed new light on the importance of global history in the study of mining activities. At the same time, a micro-historical approach - which focuses on moving actors and the techniques employed in multiple places - provides new and cross-disciplinary avenues of research on the complex world of mining.

In recent decades, the growing demand for renewable energy has renewed attention to the study of mobility and knowledge circulation in contemporary and past societies across the world. By situating present issues in longer historical trajectories, the history of mining mobilities is a promising field for interdisciplinary inquiry that seeks to offer new analytical tools to deal with our present. This panel aims to start this conversation by bringing together ECRs and scholars from various disciplines such as history, anthropology, archeology, sociology, geography and science and technology studies with a particular focus on the period spanning from the fifteenth to the twenty-first century.

Panel I: Knowledge and Actors in Global Mining Mobilities

Discussant: Dr Francesca Sanna

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Mining Mobilities in Colonial West Africa: Circulation of Technology, Knowledge, Experience in Diamond Mining

Mining technology is often the result of continuous processes of diffusion, adaptation, and re-invention activated by workers and other experts. This paper focuses on the diamond mining industry in West Africa in the 1930s. It aims to highlight: 1) the circulation of knowledge and technologies between West African colonial territories, particularly from the Gold Coast (Ghana) to Sierra Leone; 2) the circulation of European and African workers within these same territories; 3) the dynamics of diffusion and adaptation of mining knowledge and technologies.

While in the Gold Coast diamonds were discovered by colonial geologists in 1919, in Sierra Leone they were found some years later, in 1930. The Anglo-American company CAST, which operated in the Gold Coast, was therefore offered the possibility to explore and evaluate the Sierra Leone's diamond deposits. Here, CAST's mining engineers realized that the extractive techniques employed in the Gold Coast were not suited to the type of diamonds found in Sierra Leone. For this reason, they modified their extractive techniques and the machinery they had imported by sea from the Gold Coast. Mining engineers were therefore able to ascertain that they were dealing with one of the richest diamond areas in the world. Thus, CAST created a subsidiary, the SLST. In 1934, this mining company obtained from the colonial government an exclusive 99-years mining license.

The development of the diamond industry activated not only processes of circulation of knowledge and technology, but also processes of mobility of the local labourers. Initially, the SLST mainly recruited young men from villages within the diamondiferous areas. These men, however, were more attracted by farming than by mining. Thus, the managers of the SLST also hired workers from the most remote villages who made available to the company not only their labour force, but also the knowledge and skills they acquired by working in other mining sectors such as gold mining. Soon, many learned to recognize the value of diamonds and the techniques adopted by the SLST. Some of them used this knowledge to search for diamonds on their own, thus defying the security forces and the colonial authorities.

Based on the analysis of colonial archives and inspired by global micro-historical approaches, this paper argues that there are no universally effective mining technologies. Each technology must consider the specific materiality of the extracted resources and the socio-political contexts in which they are introduced and adapted.

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Heut and Geyler's Agency in the Global Mining and Metallurgical Industry in the late 19th century

The contribution of the engineers of the *École centrale des arts et manufactures* of Paris in the mining and metallurgical industries at the end of the 19th century remained until recently largely unknown. The current study focuses on the long-forgotten work of the pioneers of the domain, Alfred Huet and Alfred-Édouard Geyler. Based on the archives of the *Ecole centrale*, which trace the careers of former students around the world, our research is a first attempt to explore their role in the global mining and metallurgical industry.

Soon after their graduation from the *École centrale*, in 1849, Huet and Geyler founded their agency in Paris, the only, in France, specialized in the mechanical preparation of ores. Their professional career was launched in 1866 when their comparative analysis of devices in various mines of central Europe was rewarded with the first prize in the competition of the Society of civil engineers, while, one year later, their innovative mining equipment won the gold medal at the International Exposition in Paris. Recognized for their expertise in the domain, the two engineers were first solicited in Spain, in the provinces of Badajoz, Casares and Murcia, an industrial zone mostly occupied by French industrialists. In the following years, they expanded their activity in the Mediterranean, establishing a modern industry in Argentella, in Corsica, a large installation for the treatment of metal-bearing slags in Montecatini, in Tuscany, and in Sardinia for the treatment of lead and copper ores and slags. Their high reputation led them to Latin America, where they successfully set up several industrial installations in Mexico, Peru and Chile. Their greatest achievement was the foundation of the French Mining Company of Lavrion, in Greece.

During a decade of intense activity, Huet and Geyler's agency employed a large number of young engineers, of which at least eight graduates of the *École centrale*. While some were occupied in the office, analysing and improving the industrial equipment, others worked in the field, supervising the constructions in Italy, Spain or Greece. Moving from one site to another, they acquired useful skills, exchanged knowledge and techniques, and thus created an interactive network among Huet et Geyler's installations.

With more than fifty projects worldwide, Huet and Geyler's agency turns out to hold a highly interactive global network and a leading role in the mining and metallurgical industry in the late 19th century.

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Golden Links. Mobility through the Lens of Prospectors: Knowledge, Money, and Local Agency in the 19th Century

When it comes to mining, the most commonly mentioned actors are entrepreneurs or state representatives and workers/(forced) laborers. This paper brings a hitherto overlooked player to the scene, who held a key position in the emerging capitalist extractivism of the 19th century: prospectors. Always on the lookout for new mining sites, these men had to know how to read rocks and landscapes well, and how to process ore in the most efficient way. Further, how to communicate and maintain relationships, on the one hand, with locals, who usually either worked in the mines, gave or withdrew permissions for work to begin, or shared their knowledge of promising sites that had often been known for generations. On the other hand, they had to be socially versatile enough to convince urban investors, often transnationally active in the colonized world, to commit to a particular project far from the big cities, in areas still in the process of being discovered as good business opportunities. In this role, prospectors acted as important intermediaries between money and knowledge, between the local and the global. To work as a

prospector required a high degree of mobility: Physically, they always seemed on their way between extraction sites and investors' offices, between the mine and the plant, between home and abroad. Another kind of mobility is related to mining concessions. Once we start to pin concession sales over time on a map, patterns emerge. They visualise economic mobility and extraction trends in space. And finally, there is the mobility of the material: Ore is carted from the mine to the smelting plant, separated, sold as semi-finished products and delivered to sometimes far-away refineries, from where it is further traded to the next stops on the way to its final use. Through the case study of two Italian-French-Swiss prospectors, Pietro and Vinasco Baglioni, I explore the notion of mobility performed by the middle management of industrial extractivism which includes the circulation of knowledge (geology, cartography, technology), and money in a colonizing and colonized world. The case allows me to explore, first, how these factors came together in a simultaneously local and globalized mining boom in 19th century Switzerland, and second, how it affected local communities in the mountains of Ticino and Valais.

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Mining Mobilities and Circulation of Knowledge in Nigeria

The paper examines mining mobilities and circulation of knowledge in Nigeria. Nigerians in precolonial era engaged in mining of natural resources including copper, bronze, salt and coal as parts of their socio-economic developments. The extracted resources were deployed in different sectors of the economic such as fuel cooking and warming, production of artefacts, and manufacturing of guns and other metals. The incursion of the British forces into Nigeria and the imposition of colonial witnessed the introduction of western knowledge on mining to the local population in the late 19th and 20th centuries. This paper intends to analyse the interplay of both indigenous and western knowledge of mining that circulation across the Nigerian landscape and beyond. Data for the paper will be generated from archives, newspapers, journals and books that will be analysed qualitatively using historical and social approaches will reveal that Nigerian miners initially resisted working for the British in different mining fields in the country especially in Jos leading to the use of forces but the deployment of the indigenous mining skills of the miners coupled with the technology and ideas of the British helped to improve the performance and productivity of the miners and increase the output. The seeming improvement in the output and flexibility in the skills deployed circulated to several parts of the country and neighbouring countries. The paper argues that inflows of migrant labour from other parts of Africa, Asia and Europe has further strengthened the circulation of knowledge of mining since the 19th century in Nigeria.

Panel II: Recruiting, Negotiating, and Exchanging Labour

Discussant: Dr Gabriele Marcon

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Knowing Uranium: Examining the Exchange of Mining and Radiation Knowledge In a Soviet Uranium Mining Town

Mining and Processing Combine No. 6, situated in the Fergana Valley in Soviet Central Asia, too often appears as little more than a footnote in the burgeoning work on the history of the Soviet atomic programme. But the Combine's uranium mines and hydrometallurgical plants—dispersed across six towns and three Soviet Socialist Republics (SSR)—were the first—and the only within Soviet borders—source of uranium in the years immediately after WWII.

This paper focuses on one of these uranium towns, Mailuu-Suu in the Kyrgyz SSR, to examine the exchange of mining practices and radiation knowledge in the Soviet periphery in the late 1940s and early 1950s. By doing so, it sheds light onto working conditions in Soviet uranium mines, which becomes particularly pertinent in light of the fact that the majority of Mailuu-Suu's population and workforce at the time were Volga Germans, Crimean Tatars, Nazi collaborators, Soviet PoWs, Red Army soldiers found guilty of deserting or surrendering, and even laypersons from the Soviet territories occupied by Nazi Germany, who were deported in 1945 to Mailuu-Suu to forcibly mine uranium in its mines. There, they were joined by more experienced “young specialists,” who, from 1948 onwards, were urgently—and not necessarily voluntarily—“distributed” to the Combine from across the Soviet Union to streamline uranium extraction.

Like other Soviet “atomic cities,” Mailuu-Suu was a “closed administrative-territorial formation” that was cryptically referred to as “Enterprise Post Office Box 200” and did not appear on maps or train schedules. Its residents were also kept in the dark about the town's precise role, and knowledge about the nature and properties of uranium was withheld from the very individuals who engaged in its mining and processing.

Drawing on oral history interviews, the paper will explore the ways in which individuals with very different backgrounds, experiences, and social status interacted, worked together, and exchanged knowledge about mining and radiation in Mailuu-Suu's mines, often disregarding management instructions and state directives. Such an examination carries broader implications that stretch beyond the specific spatial and temporal setting, as Mailuu-Suu was a training ground for dozens of miners and engineers, who, having cut their teeth in uranium exploration, extraction, and processing in the Fergana Valley, took their expertise to other “atomic cities” upon the closure of Mailuu-Suu's combine in 1968 and formed much of the knowledge that informed the Soviet uranium project for decades.

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Village Workers and Migrant Laborers of the Lead and Silver Mines in Central Anatolia (1740-1796)

In the eighteenth-century, the Ottoman empire started to reopen old silver and gold mines which had been abandoned due to the influx of cheap Spanish gold and silver. Alongside reopening the old ones, the Ottoman Imperial Mint mobilized private (sub)contractors and state functionaries to search for new reserves and speed up the extraction. Accelerated extraction was expected to alleviate the adverse effects of military losses and fiscal crises. Mine operators, private and state, had their armed retainers to create a mining *domain* and a mine *order*, forbidding unauthorized trespasses and having its own jurisdiction. By following the opening of lead and silver mines in Central Anatolia in the eighteenth-century, I forefront mining domain as a space and mine order as a process to subsume and discipline labor. On the one hand, the mine management unhesitatingly

employed a rich repertoire of violence (murder, imprisonment, whipping, threatening, land grabbing, and more) to force villagers to make them become villager-workers. While these episodes of violence resemble primitive or original accumulation in the Marxian sense, they did not create “free” workers, but the villager-workers who were bonded to labor processes through debt and indebtedness. On the other hand, the ore extraction and refinement needed both voluntary and forced *migrant* labor from the older extraction zones, which had not been abandoned in the earlier centuries. Building on and expanding global labor history and the taxonomies of labor, this paper proposes two things. One is to treat labor relations in mining as a “history of multitudes” and villagers as rural proletariat resembling an intermediary labor form between slavery and wage-labor. Shifting the focus from merchant capital’s better-studied port cities and plantations, the lead and silver mining in rural Central Anatolia, hence, spotlights many understudied forms of accumulation of capital and proletariat. Two, I propose that the semi-proletarianization of villager-workers was as a political choice, not a relic of pre-capitalist economic formations, to cheapen the cost of labor and discipline the rural proletariat through debt. In sum, my major contribution to global labor history is to bring together understudied forms of exploitation and capital accumulation and political processes behind them.

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Coal Miners’ Attitude towards Poles in the British Coal Industry

After 1945, the Polish armed forces in exile in Britain who did not wish to return to a Communist Poland and their dependents were allowed to take up permanent residence in Britain. Aside from these volunteers from the Polish Resettlement Corps, over 14 000 Polish “displaced persons” also arrived in Britain as part of the European Voluntary Workers (EVW) scheme. The British government was eager to employ this foreign labour, which blurred the distinction between refugees and migrant workers (Kay and Miles, 1988), in essential industries and in the coalfields in particular. Some of them were experienced miners who had worked in the highly-mechanized Polish collieries or in German mines as POWs. Yet it soon became apparent that most of these recruits had no mining experience and had to be provided with English classes. While there has been an increased scholarly interest in the opposition within the NUM and the Communist Party of Great Britain to the introduction of Poles (concern about their political beliefs, anxieties over job insecurity, etc.), little attention has been given to *ordinary miners’* attitudes towards Polish workers. Yet, combined with other untapped sources, Mass-Observation mining surveys shed new light on miners’ initial prejudice towards Poles, and the tensions that accompanied their arrival in collieries and pit towns. While the paper will primarily focus on the South Yorkshire coalfield, it will also compare miners’ attitudes in Nottinghamshire and Monmouthshire. The paper thus aims to complement the existing studies focusing on the Scottish coalfields (Lunn 1992, Watson 2014) and North Wales (Catterall and Gildart 2005). The paper will also demonstrate that Polish recruits’ training and accommodation programs were directly inherited from the Bevin Boys’ scheme. Launched in 1944 by the Minister of Labour and National Service, Ernest Bevin, this scheme sent young British conscripts, selected by ballot, down the mines. Our contention is that this early experiment shaped the way post-war migration (Polish Resettlement Corps, EVWs, Italians, Hungarian refugees after 1956) and mining training was dealt with in the British coalfields.

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Subcontracting, recruitment, miners' mobility and knowledge circulation in colonial Vietnam

Between 1888 and 1936-37, the collieries of colonial Vietnam, which produced up to 2 million tons of coal yearly, generated millions of profits, and employed tens of thousands of workers, relied on a complex system of subcontracting for their recruitment. Recruitment, as well as most of the work organization, from the payment of wages to the distribution of rice rations, was left to the *cais*, the Vietnamese subcontractors. Only the general strategy of the collieries remained in the hands of the Executive Boards in Paris and of the (very few) European managers on the spot, while the companies' mine engineers supervised the technical aspects of mining extraction.

The *cais* were to recruit workers from their native provinces, located in the populous Red River Delta (northern Vietnam), thanks to their knowledge of the local situation and their personal networks. They would then bring them to the collieries, located on the mountainous border of the Delta (for the Dong Trieu colliery, the second most important colliery of colonial Vietnam) or at the north of the Along Bay (for the Société des Charbonnages du Tonkin, the most important colliery of the French colonial empire).

However, workers were not only recruited by *cais* on a mix of monetary advances and "propaganda" (in the words of the director of the Dong Trieu colliery) but could also come or return to the mine on a voluntary basis. Indeed, workers circulated freely between the mine and their native villages, resulting in major labor shortages and colonial anxieties. This circulation of workers also went with a circulation of knowledge about the realities of coal mining, often leading to further recruitment difficulties for collieries with a negative reputation. Finally, this mobility affected significantly the socio-economic life of the communities of the Red River Delta, whose agricultural prosperity became increasingly dependent on the return of miners to their native villages for the harvest seasons, in May and October.

This contribution, based on archival research carried out at the French colonial archives at Aix-en-Provence and at Hanoi, aims to discuss the recruitment of collieries in colonial Vietnam from 1888 to 1936-37 and its impact on local communities in the Red River Delta, with an emphasis on subcontracting and its networks and the circulation of miners and knowledge between recruitment regions and the collieries.

Panel III: Moving Knowledge, Moving Workers: Capitalism, Gender, and the Environment
Discussant: TBA

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We Want You! Selection Procedures for German Mines in the foreign refugee camps in Italy

This paper aims at analysing the recruitment procedures of mining workers in foreign refugee camps in Italy between the 1950s and 1960s, a time frame in which the correlation between political and economic push factors is particularly meaningful. During the post-World War II resettlement, the Upper Adriatic area and Trieste were a hinge between East and West

and served as collection points for several Italian and foreign refugees. As Italy was unable to absorb that large number of displaced persons, the Adriatic city represented a stopover before embarking for overseas destinations. The emigration of refugees was managed by the Intergovernmental Committee for European Migration, in cooperation with voluntary agencies. The relocation processes were usually very slow and commissions of different European countries that had the task of selecting the workforce frequently recruited workers directly in refugee camps. This paper is the result of an ongoing local archive research and aims at answering the following questions: who were the foreign refugees? Who was selected and by whom? What were the recruitment procedures? Was it a permanent emigration?

The research focuses on different aspects: it deals with the recruitment procedures for foreign workers for German mines operated directly by the European commissions and outside the ICEM system; it stresses on selection and examinations conducted in the refugee camps and the type of job offer; lastly, it will investigate the circulation of information about the conditions of workers abroad and the reaction of refugees still in the camps.

- **Todd Cleveland**
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The Impact on Spousal Accompaniment Rates Due to Prior Knowledge about Labor Conditions on Angola's Colonial-era Diamond Mines, 1919-1975

This paper examines the impact that any prior knowledge that migrant laborers possessed regarding living and working conditions on Angola's colonial-era diamond mines had on their decision to have their wives accompany them or not. In practice, the most important factor influencing this decision was any insight into life on the mines that Angolan couples and families could ascertain. In general, recruits who had previously worked on the mines were more amenable to having their wives join them, having deemed these settings sufficiently safe for their spouses. Even secondhand knowledge could also allay concerns. Prior knowledge could, however, also dissuade husbands and wives from traveling together to the mines. For example, Mulombe Manuel's wife stayed behind during his first stint in 1960 for these very reasons. "I did not bring my wife during my first contract, but I did on subsequent ones. I had heard accounts from those who had returned after they worked there, and I wanted to see for myself first. Based on their accounts, I was told that if I brought a pretty wife, the overseers would have her."

This paper examines the impact that this knowledge had on those couples and families actively determining whether wives should remain at home or join their husbands on the mines. From the commencement of mining operations in 1919 to Angolan independence in 1975, these open-pit mines were exclusively operated by Diamang, a multi-national corporation headquartered in Lisbon, Portugal, which, starting in the 1950s, annually employed over 25,000 Angolan laborers. Diamang officials desperately wanted African wives to accompany their husbands to serve as staff in company kitchens, orchards, or on expansive farms; to prepare evening meals in mining encampments; and to keep these spaces clean and orderly. Despite a series of company incentives intended to encourage these women to relocate to the mines, this paper argues that it was the knowledge – encouraging or otherwise – of living and working conditions at Diamang that ultimately, and most significantly, impacted the rates of spousal accompaniment for migrant recruits. The evidentiary base for this paper includes materials from Diamang's archive and oral testimony that I gathered during interviews with almost one hundred former company employees, including both men and women.

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*Cantines, cantiniers, and the contestation of colonial oppression in the Gard coalfield,
c.1920-1940*

In January 1937, the Algerian mineworkers of the Gard coalfield in France formed the Union Fraternelle des Musulmans du Gard (UFMG) to demand improved living conditions and social rights. Coordinating the organisation was a group of *cantiniers* (canteen mangers) led by Mohamed Chalal. Studying this political formation, forged in the *cantines* of the coalfield, sheds new light on how subalterns socialised, constructed bonds of solidarity, and contested discrimination in interwar industrial France.

The French coalmining industry of the interwar period relied upon migrant labour from European countries and, increasingly, Algeria. Almost all Algerians in French coalfields were men. By consequence, social-reproductive labour, ‘domestic’ labour necessary for the quotidian and generational reproduction of the labour force usually done for free by women, was outsourced to *cantiniers*. This paper assesses the political potential of these actors and spaces of social reproduction.

First, the paper explores how the label ‘*cantine*’ referred to a range of functions including eating halls, residential buildings, or sites of sociability. Algerian *cantiniers* thus reproduced the colonial workforce by providing lodging, food, social spaces, and recruitment. When *cantiniers* went beyond this role, they became a real object of interest in state records. The second part of the paper analyses police concerns about the potential for communist influence through the case of Saïd Moula. As the 1930s drew on, subversive *cantiniers* were increasingly perceived as a threat to colonial order. In the third section, the paper explores the centrality of the *cantines* to the UFMG and other subversive activities. Surveillance documents and the content of the UFMG’s demands unveil the crucial role played by a network of Algerian *cantiniers* and the European women who worked with them, as well as the importance of *cantines* as spaces of sociability and the sharing of grievances. This organisation enabled a sustained autonomous expression of Algerian resistance to what they diagnosed as colonial and racial oppression that was taken seriously by employers, supported by some local trade unionists, and criminalised by administrators. In 1939, some *cantiniers* came to be suspected of abusing their social position to encourage desertion of mining work.

By studying the space of the *cantine* and the figure of the *cantinier*, this paper affords important new insights into the development of resistance to colonial oppression in the metropole. It contributes to labour and colonial histories by exploring the relationship between racial hierarchies, the practice and spatiality of reproductive labour, and resistance.

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Coal Lives. Migration, Toxicity, and the Heritage of Industrialization in Belgium

On June 23, 1946, Italy and Belgium signed the so-called “men in exchange for coal agreement”. Italy agreed in sending 50,000 workers each year to Belgium in exchange for at least 2,500 tons of coal per months according to the extraction rate (Morelli, 1988). The bi-lateral agreement between

the two States was the first of a series of alike treaties which would then regulate migration in the future EU for almost three decades. By openly equaling workers' bodies to a natural resource conceived as a commodity, Belgium and Italy revealed the capitalist vision that informed the coal-led metabolism (Valisena, 2020) that alimented most of the world economy in the aftermath of the Second World War. Such a metabolic relation needed to consume coal as much as it needed to consume workers' bodies, and the constant influx of new healthy migrants was an essential component of that socio-natural extractivist project.

Building upon oral and archival sources pertaining to miners' experiences, as well as by analyzing documents produced by the Belgian coal trust — Fedechar — and the medico-technical institute that provided guidance in occupational health policy for miners in Belgium — Institut d'Hygiène des Mines, I am to reconstruct the role of migrant miners in the Belgian metabolism of coal. Notably, I am to focus on how the coal-led socio-ecology that governed Belgian economy framed, valued, and regulated Italian migrants' bodies and migrant workers at large, as well as the discourses that were produced by Belgian state institutions in relation to miners' health, productivity, expendability, and replaceability. At the same time, by adopting an Environmental Humanities perspective, I am to show how Italian workers experienced, conceived, and resisted to such a hazardous socio-ecology.

Session 2:

Mining–Agriculture Relationships: Influences on labour organisation and labour markets

Organisers: José Joaquín García Gómez (University of Almería), Miguel Ángel Pérez de Perceval (University of Murcia) and Aron Cohen Amsalem (University of Granada)

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The historical relationship between mining and agriculture is long and multifaceted. Both economic sub-sectors are part of the primary sector and are based on human exploitation of the natural environment, both mineral and vegetable.

As a consequence, agriculture and mining often share a physical environment, which they often compete with each other in various ways. Both sub-sectors share space, financing, infrastructure and, especially, labour markets. They are developed in places that depend on specific characteristics: mineral resources in the first case and soil endowments, water resources and climate mainly in the second. The difference lies in the greater time constraints of mining, which exploits non-renewable resources. It is normal for mining activity to have an impact on agricultural areas, influencing each other in different ways. Historical mining has until recently been (and still is in some areas) labour intensive, so there is a heavy dependence on the labour market, both for unskilled and more skilled labour (which is still the case). The initial source of supply was the agricultural environment, with many mining centres characterised by dual work, organised in different ways. The previous structures or customs of the area where extraction took place had a different but important influence on the new forms of labour organisation, the use of child or female labour. The degree of women's participation in mining has been shown to be closely related to this earlier substratum and to the conditions under which mining evolved in its early stages.

The demand for employment in the mines, which in some areas generated important migratory movements, altered the working conditions in the areas where it was introduced, leading to conflicts with the previous economic activity. In some parts of Europe, it was even proposed in the 19th century to temporarily stop working in the mines during periods of peak agricultural activity.

The strategies of the mining companies were to ensure the supply of workers, so they developed strategies to fix and indoctrinate the workforce. Depending on the circumstances in which extraction took place, they could take advantage of the joint work of mines and agriculture or they could try to develop a specific working environment, adapted to the numerical and qualification needs of the exploitations. This is what happened in some basins where the dual worker was initially praised and later attempts were made to professionalise mine workers, separating them from the rural environment or from the lack of definition in which they could be found at times. The industrial paternalism of the mining companies was also at work here, in this effort to control, fix and train their employees.

Not only were factors related to the labour market and the supply of labour the only elements of labour interference. The new activity and the population centres that developed in the heat of the exploitation of the subsoil influenced and/or collided with the pre-existing population, altering their situation to some extent. New demands for work, complementary employment possibilities, economic changes, interference with basic resources (mainly water and land), pollution (of people, animals or flora), cultural elements, violence (a characteristic of the past and present of these districts), etc. were factors that influenced the living conditions of the environment. Finally, the decline and closure of the mines is another element of influence that can translocate the economy of the districts where this activity was established.

The relationship between agriculture and mining has been analysed in numerous works, both by agricultural and mining history researchers. However, despite its importance, it has not been placed as the central focus of research or, at least, as the core of the debate on its historical evolution. This session aims to fill in some of this gap by exploring the influence of this relationship on the development of labour markets and labour organisation.

Panel I: Relations between mining and agriculture

Chair: Dr. Aron Cohen

- **Francesca Sanna**
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In between fields : labour pluriactivity in mining and agriculture in Italy (XIX-XX)
- **Eva Trescastro, María Tormo, Pep Bernabéu and Alba Martínez**
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Food in the mining areas of southeastern Spain. Analysis of a manuscript of recipes from the 19th century
- **Paulo E. Guimaraes**
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Mining and agricultural labour markets and labour organisation in Portugal from the Liberal Era to the New State
- **Adolfo Turbanti**
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Relations between Mining and Agriculture in Italy

Panel II: Environmental and social effects derived from the Mining and Agriculture relations

Chair: Dr José Joaquín García Gómez

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- **Sakis Dimitriadis**
Land Ownership, Mining and Labour Market Fragmentation in Northern Euboea, 1850-1920
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- **Pedro Gabriel Silva and Octávio Sacramento**
Between mining and farming: social and ecological transformations of wolfram extraction in a Portuguese agrarian context (1930s-1970s)
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- **Agustín Fleta, Geneviève Brisson y Aron Cohen**
Minería y conflictos por el agua. Miradas cruzadas desde España y Canadá
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- **Juan D. Pérez-Cebada and Pedro G. Silva**
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- **Aron Cohen**
Gran minería, pequeño campesinado: transición al capitalismo en un área de la Andalucía “profunda” (fines siglo XIX-siglo XX)
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