The cultural landscape of the Linares-La Carolina mining district (Spain)
Kulturowy krajobraz rejonu górniczego Linares-La Carolina (Hiszpania)

Antonio Angel Peréz Sánchez¹, Marek W. Lorenc²
¹ Colectivo Proyecto Arrayanes, Plaza Ayuntamiento s/n (bajos parking), 23700 Linares (Jaén), Spain.
² Institute of Landscape Architecture, Wrocław University of Environmental and Life Sciences, pl. Grunwaldzki 24a, 50-363 Wrocław, Poland

Abstract: The Linares-La Carolina mining district is located in the north of Andalusia. In 1999, the European partners of the MINET (European Mining Heritage Network) Project visited the district and described it as “The best kept secret in Europe”. This is a heritage of international historical, technological, cultural and economic importance with an exceptional concentration of remains. Some of these, unmatched anywhere, represent 4000 years of mining history, and of an intense “Industrial Revolution” that shaped a unique cultural landscape.

The great importance of the mining and smelting activities in the area during the industrial period resulted in numerous different buildings that changed the aspect of the place and left their mark in towns and villages, creating a distinctive landscape. The ore dressing floors, significant features in themselves, gave rise to huge waste accumulations, tailings and dams that deeply mark the landscape.

The first Cornish pumping engine was installed in Pozo Ancho Mine in 1849, proving to be such a success that a great proportion of the area’s mines were equipped with these Leviathans of the industrial world. There are still a great number of Cornish pumping Engine Houses in the district. Their robust construction has allowed them to continue to stand out as reference points in the landscape and as symbols of industrial architecture.

The Linares-La Carolina District has probably one of the largest concentrations of pumping engine houses in the world.

Six important foundries (La Cruz, Arroyo Hidalgo, La Esperanza, La Tortilla, La Fortuna and San Luis) were working at the same

Fig. 1. Situation map of the Linares-La Carolina mining district (Fig 1–14: from the Graphic Archive of the Colectivo Proyecto Arrayanes)

• Szkic sytuacyjny rejonu górniczego Linares-La Carolina (Fig 1–14: ze zbiorów archiwalnych Colectivo Proyecto Arrayanes)
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The Linares-La Carolina mining district in the north of the Province of Jaén, in the region of Andalusia, extends about 40 kilometers to the south from Despeñaperros (in Sierra Morena) and about 30 kilometers from east to west (Fig. 1). In 1999, the European partners of the MINET (European Mining Heritage Network) Project visited the district. Some of the visitors published an article in a local Cornish newspaper describing the huge importance of what they had seen. This appreciation of our heritage confirmed our own views based on work carried out from 1991 when the Arrayanes Project was launched. This is a heritage of international historical, technological, cultural and economic importance with a systematic colonization of all the Rumber area. The association Arrayanes Project has identified several mines exploited for copper in that period (Fig. 2).

Later, Romans and Carthaginians sought the cooperation of the Iberian people to exploit their rich copper and lead
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The Romans established several mines near Linares (including Arrayanes and La Cruz) and in the Sierra Morena (El Centenillo and Salas de Galiarda), where mining and metallurgical activity assumed great importance as is testified by associated defensive fortifications. The Romans applied cutting edge technology to the mines; well preserved Roman waterwheels and Archimedes screws were discovered at El Centenillo in 1911 (Arboledas, 2007).

The Iberian town of Cástulo, near Linares, was the capital of the mining district during the Roman period. Registries dating from 1563, referring to mining concessions in the area, point to continued mineral exploitation in the Middle Ages and the period of Moorish domination. In 1749, the Spanish Crown took an interest in the district, choosing to work the Arrayanes Mine. Mining assumed a new and important impetus, which attracted many technicians and specialized workers from the Almaden Mines.

The geology of the mining district

The district is divided into two areas with different geological and morphological characteristics (Fig. 3). The southeast area includes part of the municipalities of Bailén, Linares, Vilches and Guarromán, with a mixed landscape of countryside and the foothills of Sierra Morena (Fig. 4). The surface of the country here is a successive undulation of hills and valleys. These valleys are clearly product of erosion process.

The metal-bearings rock of this area is compact granite, slightly micaeous, which distinctive component is feldspar. Capping the granite is ferruginous quartzose sandstone, sometimes resting directly upon it, at other places upon a stratum of clay, which intervenes between it and the granite. The thickness of the sandstone deposit is very variable, as well as the stratum of clay. The metalliferous fissures traverse to the granite and the sandstone, which would indicate that they were posterior to the deposition of the more recent strata. The formation of this geological structure can be summarized in three stages. After a first stage of extension and a second stage of local compression, that gave raise to several faults, the third stage of opening, during which occurred the filler of the veins, was of widespread magmatic activity, developing hydrothermal systems that gave raise to the mineralization. The main veins supplies in granite, with regular and clean fissures (Thomas, 1857).

The northwest area of the district includes part of the municipalities of Baños de la Encina, Carboneros, La Carolina and Santa Elena (Fig. 5). In it appear Paleozoic materials, rocks affected by a regional metamorphism medium or low, which come together in three groups. The lower one, made up for old materials as quartzite and phyllite, the intermediate one composed of argillaceous slate, known as “sliding slate”, and, finally, the third one with limestone and slate (Itinerario minero..., 2000). The argillaceous slate overlying the granite, at the contact zone is penetrated by numerous granitic veins. This slate is also capped with sandstone in the same way as the neighboring granite, and near the contact is transformed into metamorphic rock, resembling very fine grained granite. The metalliferous veins transverse both the granite and the slate. The original lodes field origin is the same that in Linares area, with veins in four different directions (Thomas, 1857).

Among the general characteristics of the lodes of the district may be mentioned the following, though they are by no means unexceptional ones: a north-easterly bearing, in most cases varying between 40° and 70°; a decided tendency in the most powerful lodes to vary from northerly bearing than those of not so champion a character; a north-westerly underlie in most clear varying very little from the perpendicular, and, where such variation is greatest, a tendency to bunchiness in the lode. The back of the most productive lodes are generally composed by decomposed granite, traversed by...
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veins of quartz and gossan interspersed with nodules of galena. Carbonates of lead, copper pyrites and carbonates and oxides of copper are also found in considerable quantities on the backs of some of the lodes, but this almost invariably disappear in depth, giving place to pure galena, and it is by no means uncommon to find the galena become a carbonate or sulphate on its leaving the granite and entering the sandstone capping. Sulphate of barites is found in considerable quantities in some of the lodes, and although not an invariable accompaniment of a rich lode, is seldom found in any quantity in a pure one. Mundic is very rare in the granite, but very common in the slate; and marked difference in this respect is observable in the ores raised from the two strata (Thomas, op. cit.).

The Heritage of the Industrial and Mining activity

The mining and smelting activities around Linares-La Carolina during the Industrial period resulted in a great variety of different buildings that changed the appearance of the region and left their mark in towns and villages; they created a distinctive landscape. The ore dressing floors, significant features in themselves, gave rise to huge waste accumulations, tailings and dams, and deeply marked the landscape. The removal of trees and bushes for fuel provoked frequent conflicts in addition to those arising from the contamination. Life in the cities and villages, and indeed the entire social structure of the region changed quickly as it

Fig. 4. Geological map of the southern area Linares – Cero Pelado (after Dueñas et al., 2000a). 1 – phyllites, 2 – granite, 3 – sandstone, 4 – clays, 5 – Triassic sediments, 6 – alluvial deposits • Mapa geologiczna obszaru południowego Linares-Cero Pelado (wg Dueñas et al., 2000a). 1 – fyllity, 2 – granit, 3 – piaskowce, 4 – gliny, 5 – osady triasu, 6 – osady aluwialne

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Fig. 5. Geological map of the northern area La Carolina – El Centenillo (after Dueñas et al., 2000a). • Mapa geologiczna obszaru północnego La Carolina – El Centenillo (wg Dueñas et al., 2000a).
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Fig. 6. View of La Tortilla’s mine • Widok na kopalnię La Tortilla

Fig. 7. French style “Bull” Engine House in San Andrés shaft (Guarromán) • Siłownia typu „Bull” we francuskim stylu nad szybem San Andrés (Guarromán)
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Fig. 8. General view of La Tortilla Foundry at the beginning of the 20th Century • Widok ogólny huty La Tortilla z początku XX wieku

Fig. 9. Electric generator at the Electrical Central of La Manzana (La Carolina) • Generator w centrum energetycznym kopalni La Manzana (La Carolina)
adapted to the newly industrialized society. This resulted in the emergence of a new social order, particularly the rise of a new middle class comprising technicians and specialized workers from other areas and countries.

The first Cornish pumping engine was installed in Pozo Ancho Mine in 1849. It proved to be such a success that a great proportion of the area’s mines were equipped with these Leviathans of the industrial world. (Mesa y Álvarez de, 1889–1890) There are still a great number of Cornish pumping Engine Houses in the district. We have catalogued 32 of these buildings. Their robustness has allowed them to continue to stand out as reference points in the landscape and as symbols of industrial architecture. (Brown, 1997). The Linares-La Carolina district has probably one of the largest concentrations of pumping engine houses in the world (Fig. 6). An extensive network of paths and roads connect the remains throughout the area and across the territory of eight municipalities.

Boiler houses were less sturdy than the pumping engine houses and there are fewer preserved examples. One exception is the house of the Sopwith Company, such as that at Pozo Santa Annie in La Tortilla Mines. In other cases, as in the house for three boilers in Pozo San Andres, only the stone foundations for the boilers remain. Some 70 remains of this type of building have been catalogued but only about 12 are in good condition (Barton, 1989).

At least three direct action engines (“Bull Engines”) were installed in the district. One example was built with red bricks and round windows over a set of underground tunnels and rooms. The French-style house of San Andres is one of only three of “Bull” type that we think still exist in the world (Fig. 7). It is very well integrated into a landscape that is also of great ecological value (Brown, 1997).

A prominent example of winding technology is the iron headgear of Mina Antoñita, built in the Penryn Foundry that worked in Cornwall between 1853 and 1887. In 1883, there were 88 winding engines installed. There have been catalogued about 70 winding engine houses, usually well preserved, 17 iron headgears and 17 stone headgears, all them...
very well preserved. There is no other place in the world known with similar number of these and, thus, it is considered as a defining element of Spanish mining heritage.

There is another excellent example of a beam winding engine house in Pozo Briones close La Esmeralda Mine (Anonimo. 1877). It is very similar to that at Levant Mine, in Cornwall (Rowe, 1998). A 22" engine was installed in Pozo Briones – the first of the steam era in the area.

In the dressing works, the ore was crushed and the galena separated from the waste before transport to the smelting works (Henry Davies, 1894). Six important foundries (La Cruz, Arroyo Hidalgo, La Esperanza, La Tortilla, La Fortuna and San Luis) were working at the same time in Linares and three more in La Carolina. In these, the galena was smelted to give metallic lead (Anonimo, 1877). La Tortilla Foundry, founded by Thomas Sopwith in 1874, became in 1885 the most modern and complete in Europe (Fig. 8). La Cruz Foundry was created in 1830 by the Marquis of Remisa and, later, was bought by the Neufville family of Paris. It was the last foundry to be closed in the district in 1986 and remains well preserved (Guía de Linares y su provincia, Jaén, 1880., 1993). Currently, there are four shot towers preserved in good condition, two in Linares and two in La Carolina.

Steam power was gradually replaced by electricity (Fig. 9). The power stations generated electricity from water or from steam engines. One of the most important power stations in Linares was that of the Mengemor Company. There was also a local company known as “Linaresen de Electricidad”. The Central Hydroelectric Power Station of El Arquillo was opened in 1921 on the Guadalimar river (Compañía Sevillana de Electricidad., 1994). Apart from this supplemented water-powered generators with steam turbines, at several mines such as El Guindo, steam-powered generators were installed (Molina Vega, 1987).

The Arrayanes Project – current activities

The Arrayanes Project was born in 1991 when a group of people from different professional fields was formed to preserve the mining and industrial heritage of the district and to ensure that its importance was recognized. At this point, all mining was about to cease. The group had the aim of preventing the despoliation and dilapidation of the remains. Since then, the group (the Colectivo) has produced several publications and held exhibitions, talks, conferences and other activities to publicize the region. The Colectivo has attended national and international conferences and as a result, the value of our mining heritage has been recognized. The Colectivo is founder member of the Andalucian Heritage Defense and Study Association (ADEPTA) as well as of The International Committee for the Conservation of the Industrial Heritage (TICCIH). It participates as a partner in the MINET European project (European Mining Heritage Network) and now is a member of the European Mining Heritage Network Europamines.

A prime objective of the Colectivo was the legal protection of the heritage. This process started in 1998, when the Regional Culture Authority awarded the area B.I.C. (Cultural Good) status. The Department of Culture entrusted to the Colectivo the work of cataloging the mining sites of the district to be inscribed as part of the Andalusian Historic Heritage. Our association worked on this for more than six years and the first list, with 65 sites, was officially published in January 2004. The protection was completed with the inclusion of a further 60 mining sites, officially published in May 2008.

The Mining Landscape Interpretation Centre is located in a stone built warehouse in Madrid Railway Station and is the initial information point for visitors wishing to understand the importance and value of our heritage. The exhibition inside the centre has been designed to be as stimulating as possible as it aims to encourage tourists to visit the real museum: the area itself (Fig. 10).

The centerpiece is a 12 meters square model of the mining landscape with which visitors are able to interact by means of lasers that activate screens displaying various elements of the district’s rich heritage. This model shows a series of walking routes inviting people to visit and explore the real museum. The halls contain exhibitions, models and artifacts housed in showcases. In addition to displays that are clear and attractive, there are several screens displaying more exhaustive and specialized information.

People visiting the Linares-La Carolina district can use a series of sign-posted paths and roads receiving, as they do so, information about the most important remains on each itinerary. Six short way-marked paths covering 58 kilometers near the town of Linares make it possible to visit the mining landscape and 23 significant mining sites. An interpretation panel giving information about the history and other relevant elements is located at each of those sites. In the near future, the network of paths will be enlarged to include all catalogued sites in the district. This network is integrated into the European Paths Network.

The flood-lighting project is intended to highlight the symbolic value of the mining remains. It began with the lighting of remains located beside roads leading to Linares (Fig. 11). Currently, the “Minas de Los Lores”, an iron headgear and the Mine Las Angustias, on the roads from Bailén...
The cultural landscape of the Linares-La Carolina mining district (Spain) and Baños de la Encina, are floodlit. In the near future, the remains of Pozo Ancho Mine on the road from Guarroman will be floodlit also.

The Metallurgy Interpretation Centre, a key part of the main project, is sited in the old La Cruz Foundry which worked from 1830 (Fig. 12). The first stage of the recovery work has made visits to the shot manufacturing area possible. In the near future, the smelting process will be reproduced in two warehouses that date from the early 20th Century.

Future Projects

The project must be able to turn the mining heritage of the district into a real resource for social regeneration and an attraction for visitors looking for cultural- and eco-tourism and research. The population of the area must recover a pride in their heritage which was lost when the mines closed. All actions must be coherent and must be integrated with initiatives of the local, provincial and regional authorities, as well as with those of private and other institutions so that all can contribute to the overall objective. Consequently, a number of further initiatives are planned.

A long term aim of the Colectivo is to get the Mining Landscape of the Linares-La Carolina district designated as a UNESCO World Heritage Site. This will ensure that future generations will benefit from an understanding of how mining, mankind’s oldest industry, has contributed to the development of society – socially, culturally, economically and technologically – since the dawn of human habitation in the Stone Age.

The aim of the Mining Interpretative Centre will be to show a typical mine. It will be located in the La Tortilla Mines.
which are now in public ownership. Contributions from the Culture Ministry, the Regional Architecture Department and the Town Council will enable the preservation and restoration of the surviving buildings. The centre will show the surface features of the mine and will demonstrate the use of Cornish steam technology for pumping and winding as used in the region at the end of the 19th Century.

This project is based on the unique surviving “Bull” engine house that was built at this mine at the beginning of the 20th Century (Fig. 13). The project was approved by the tourist authorities five years ago but implementation was postponed by the Guarroman Town Council. The museum will include a visitor reception area, access to tunnels below the engine house and the “Bull” engine house itself. There will be a reconstruction of manual ore dressing as well as recreational paths and viewing points.

As a consequence of increased visits to the area, it is necessary to improve safety conditions near the mines by capping open shafts and signposting and fencing areas of collapse along the lines of old workings. It will be necessary to make an inventory of dangerous areas and to deal with them appropriately. Our association has requested funds from the employment and technological development authorities to carry out this work but it will be necessary to extend its scope. The Colectivo has just completed a campaign to emphasize the need of security involving several visits to the mine sites and publication of information about security in the mining areas.

The Linares-Los Salidos Mining Railway, which runs for about 12 kilometers, covers the mining fields in the northern area near Linares which belonged to the most important companies. Its restoration will allow easy access across a beautiful and ecologically-rich landscape (Mesa y Álvarez de, 1889–1890).

It would be a very attractive proposition to demonstrate the underground workings. However, the absence of horizontal adits in the mines makes their adaptation for tourist visits very difficult. Thus, it will be necessary to build an artificial mine, a Show Mine, to be located in La Tortilla Mines close the interpretation centre and adapted to simulate underground workings. Research work has started recently and it is aimed to complete construction in 2010 (Fig. 14). In addition, it is planned to adapt one underground level of La Manzana Mine, in La Carolina, for visits showing how the underground workings were in different periods.

Several archaeological investigations are currently underway in the area. They have confirmed the antiquity of mining and smelting in the region (Contreras Cortés, et al., 1997). These could be included as part of the tourist experience. The reconstruction of an Iberian-Roman settlement, including a small village and a mine to illustrate how this area developed at the start of its mining history, could be a key element. This
project will comprise the ancient mining routes and revaluation of an Iberian-Roman settlement.

The landscape of the Linares-La Carolina mining district should be a real museum that people would wish to visit. There is a need to preserve and interpret both artifacts and a way of life. The Arrayanes Project has been, and must be in the future, a partnership between the local people and their heritage. In the longer term, a number of additional projects will contribute to achieving this:

- Cataloguing of machinery, tools and equipment.
- Document Centre archiving written documents, photographs, plans, maps, etc.
- The El Centenillo mines and village – restoration of a mining settlement
- Oral history – testimonies from those who experienced the reality of mining.
- Long distance way-marked paths and roads connecting the north and south of the area and linking with the shorter paths in each area.

Preservation of Roman remains in Palazuelos and La Fernandina.

Publication of books, articles and leaflets to raise awareness

The future of the project can be summarized as follows:
- To promote the cultural heritage of the area.
- To ensure this heritage is understood and valued.
- To promote the reuse of the mine remains.
- To provide the necessary management structures to meet these aims.
- To maintain the independence of the Colectivo.
- To establish good relationships with other areas and countries with the same heritage.
- To transform the heritage into a resource for sustainable development.

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Streszczenie

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Rejon górniczy Linares-La Carolina, położony na północy prowincji Jaén w Andaluzji, rozciąga się na odległość około 40 km na południe od Despeñaperros w Sierra Morena oraz na odcinku około 30 km ze wschodu na zachód (Fig. 1).

Jest to dziedzictwo o międzynarodowym znaczeniu historycznym, technologicznym, kulturowym i ekonomicznym, o szczególnym nagromadzeniu zabytków. Niektóre z nich, niespotykane nigdzie indziej, przedstawiają pozostałości intensywnie „Rewolucji Przemysłowej”. Cztery tysiące lat historii górnictwa ukształtowało unikalny krajobraz ukształtowany jak ludzkość była związana ze swoim środowiskiem od czasu epoki Brązu, kiedy to ludność rolnicza nadającą się do południowego-zachodu, poszukiwała miedzi i wznowiała swoją działalność wzdłuż brzegów rzek płynących z Sierra Morena (Contreras, 2000). Badana aktualnie przez archeologów z Uniwersytetu w Granadzie osada Peñalosa była punktem ogniskującym systematyczną kolonizację rejonu Rumblar (Fig. 2).

Później, Rzymianie i Kartagińczycy, stworzyli wiele kopaliń w okolicach Linares (np. Arrayanes i La Cruz), a także w Sierra Morena (El Centenillo i Salas de Galiarda), eksplotujących bogate złoża miedzi i ołowiu. Pozostałości obronnych fortyfikacji ewidentnie dowodzą wielkiego znaczenia działalności górniczej i metalurgicznej.

W okresie Rzymskim, stolicą rejonu górniczego było miasto Castulo, położone niedaleko Linares. Dokumenty datowane od 1563 r. odnoszące się do koncesji w tym rejonie, potwierdzają ciągłą eksplotację tutejszych złoża także w Średniowieczu i w okresie dominacji muzułmańskiej.

W roku 1749 hiszpańskie królestwo zainteresowało się tym obszarem wybierając kopalnie Arrayanes jako wiodące w skali kraju.

Rys geologiczny rejonu górniczego

Rejon ten podzieleny jest na dwa obszary o odmiennym budowie geologicznej i morfologicznej (Fig. 3). Obszar południowo-wschodni obejmuje krajobraz wiejski i podnóże Sierra Morena okolice Bailén, Linares, Vilches i Guarromán (Fig. 4). Bogata rzeźba terenu, będąca efektem intensywnej erozji, charakteryzuje się bogactwem wzgórza i dolin. Skalę rudonośną w tym obszarze jest bogaty w skałki w skale oraz w dolinie góry. Rudne żyły wypełniają szczeliny w granicie, przechodzące są także w obręb piaskowców. Geologiczna eluksja tego obszaru przebiegała w trzech etapach. Po pierwszym etapie naprężeń ekstensywnych i drugim – kompresyjnych, generujących wiele stref uskokowych, etap trzeci, w którym szczeliny otwierały i formowały się strefy rudne żyły, był związany z wielkoskalową aktywnością magmową, generującą system późniejszych utworów hydrotermalnych, obfitujących w mineralizację rudną.

Obszar północno-zachodni obejmuje okolice Baños de la Encina, Carboneros, La Carolina i Santa Elena (Fig. 5). Występują tu paleozoiczne skały metamorficzne stopnia średniego i niskiego, formujące trzy grupy litologiczne. Najniższą stanowią kwarcyt i fyllity, środkową – łupki ilaste, znane jako tzw. „łupki śliskie”, a najwyższą – wapień i kolejne łupki ilaste. Łupki ilaste, na kontakcie z granitami, przechodzą wyżej także w skale rudonośną.

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Jest to dziedzictwo o międzynarodowym znaczeniu historycznym, technologicznym, kulturowym i ekonomicznym, o szczególnym nagromadzeniu zabytków. Niektóre z nich, niespotykane nigdzie indziej, przedstawiają pozostałości intensywnie „Rewolucji Przemysłowej”. Cztery tysiące lat historii górnictwa ukształtowało unikalny krajobraz ukształtowany jak ludzkość była związana ze swoim środowiskiem od czasu epoki Brązu, kiedy to ludność rolnicza nadającą się do południowego-zachodu, poszukiwała miedzi i wznowiała swoją działalność wzdłuż brzegów rzek płynących z Sierra Morena (Contreras, 2000). Badana aktualnie przez archeologów z Uniwersytetu w Granadzie osada Peñalosa była punktem ogniskującym systematyczną kolonizację rejonu Rumblar (Fig. 2).

Później, Rzymianie i Kartagińczycy, stworzyli wiele kopaliń w okolicach Linares (np. Arrayanes i La Cruz), a także w Sierra Morena (El Centenillo i Salas de Galiarda), eksplotujących bogate złoża miedzi i ołowiu. Pozostałości obronnych Fortyfikacji ewidentnie dowodzą wielkiego znaczenia działalności górniczej i metalurgicznej.

W okresie Rzymskim, stolicą rejonu górniczego było miasto Castulo, położone niedaleko Linares. Dokumenty datowane od 1563 r. odnoszące się do koncesji w tym rejonie, potwierdzają ciągłą eksplotację tutejszych złoża także w Średniowieczu i w okresie dominacji muzułmańskiej.

W roku 1749 hiszpańskie królestwo zainteresowało się tym obszarem wybierając kopalnie Arrayanes jako wiodące w skali kraju.
Działalność grupy Colectivo Proyecto Arrayanes
Projekt Arrayanes powstał w 1991 r., gdy grupa ludzi różnej profesji zawiązała się, aby ratować i zachować dziejictwo górnicze i przemysłowe regionu. Od tego czasu zespół o nazwie Colectivo Arrayanes wydał wiele publikacji, zorganizował wiele wystaw i konferencji dla społeczności tego regionu. Zorganizował też nowoczesne Centrum Interpretacyjne Krajobrazu Górniczego, adaptując na ten cel budynki magazynowy nieczynnej stacji kolejowej. Wewnątrz znajduje się stała, bogata ekspozycja muzealna historii górnictwa i hutnictwa, model rejonu górnego po powierzchni 12 m² z elektronicznym sterowaniem i audiowizualną prezentacją, a także sala konferencyjna (Fig. 10).

Ciekawą inicjatywą Colectivo była realizacja projektu, mającego na celu iluminację zabytków górniczych na terenie i w pobliżu miasta Linares (Fig. 11). Oświetlone są w ten sposób m.in. zabudowania kopalni Los Lores na periferii miasta oraz wieża wyciągowa dawnej kopalni Las Angustia w centrum Linares. Planuje się też wykonać iluminację obiektów kopalni Pozo Ancho przy drodze z Guarroman.

Stworzenie Centrum Interpretacyjnego Metallurgii jest kolejnym projektem. Będzie się ono mieścić na terenie dawnej huty La Cruz, której zabudowania są właśnie w trakcie renovacji i adaptacji (Fig. 12). Jedną z atrakcji będzie rekonstrukcja wieży śrutowej i prezentacja procesu produkcji śrutu.

Stworzenie Centrum Interpretacyjnego Górnictwa na terenie dawnej kopalni La Tortilla jest kolejnym projektem do przyszłej realizacji. Między innymi będzie tu demonstrowane wykorzystanie kornwalijskiej technologii parowej do napędu maszyn wyciągowych i odwadniań kopalń tak, jak to wyglądało w XIX wieku. Projekt ten bazuje też na jedynym zachowanym budynku silnika typu „Bull” zainstalowanego w tej kopalni na początku XX wieku (Fig. 13).

Wobec braku zachowanych i zabezpieczonych podziemnych wyrobisk, planowane jest stworzenie na terenie dawnej kopalni La Tortilla „sztucznej kopalni” i podziemnej trasy demonstracyjnej (Fig. 14). Zakończenie tych prac przewidywane jest w roku 2010. Ponadto zaadoptuje się dla celów turystycznych istniejące sztolnie kopalni La Manzana w La Carolina dla uzyskania jak wyglądały podziemne wyrobiska w różnych okresach wydobycia rudy.

Cały rozległy obszar górniczy Linares-La Carolina powinien stać się otwartym muzeum, które społeczność chciała odowiedzieć. Długoterminowym projektem jest rozpoznanie procedury zgłoszenia Krajobrazu Górniczego rejonu Linares-La Carolina na listę Stanowisk Światowego Dziedzictwa UNESCO. Planowane są też długoterminowe działania obejmujące m.in.:

- Skatalogowanie zachowanych obiektów, sprzętów, narzędzi i wyposażenia,
- Archiwizacja dokumentów, fotografii, planów, map, itp.,
- Rewitalizacja osady górniczej El Centenillo,
- Zapis przekazów słownych uzyskanych od osób, które pracowały w tutejszym górnictwie,
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