

THE DEVASTATING MEGAMACHINE - DESTROY THE MEGAMACHINE

Extractivism characterizes the modern era. We define extractivism as a particular way of thinking and the properties and practices organized towards the goal of maximizing benefit through extraction, which brings in its wake violence and destruction¹

Introduction: what is extractivism?

In discussing and analyzing how to build this event, the first question we asked and tried to answer was: what do we mean by the term “extractivism”?

After an initial search, we were surprised to find that the term had been coined in 1996 in relation to the exploitation of forests in Brazil. The term was born with a negative connotation that is still used today. Extractivism refers to a pattern in which natural resources are extracted from one place and exported to another, with little or no local processing. In other words, it is the **systematic plundering** that has been at the root of colonialism for at least 500 years. In its contemporary sense (sometimes called neo-extractivism), the main actors become the large multinational corporations and neoliberal policies that, behind promises of economic development and employment in poor countries, hide the severe environmental and social damage inflicted on the places and populations that suffer most from extractive projects. In short, this is not a neutral term, but one that is closely linked to the neo-colonial policies on which Western “welfare” is based and which are more than fundamental to the construction of the **technoworld** that awaits us. But to understand it better, let’s consider the historical unfolding. Let’s turn for a moment to the past.

¹ Our Extractive Age: Expressions of Violence and Resistance, J. Shapiro and J.A. McNeish

1. Historical background on resource extraction

Using of what nature could provide is, without question, the main element that has marked the evolution of Homo sapiens since the species began to appear on Earth, to the point that, according to official historiography, it is precisely the ability of primitive hominids to handle these materials that marks their mental evolution (Stone Age, Bronze Age, Iron Age...)².

On the other hand, when we talk about the **systematic extraction of resources** from the subsoil, we are talking about a practice that has accompanied human groups from the moment they have given themselves a hierarchical organization, a centralized form of administration, infrastructures and armies for their own defense. In other words, the **structured systems of power** that characterize the first great civilizations, the ancient empires, and then the nation-states.

But if, for the sake of clarity, we wanted to determine when human beings reached that point of unprecedented rupture with their environment that constitutes the prodrome of the world as we know it today, we would probably date that moment around the 18th century, with the so-called industrial revolution, with the myth of progress, and with the establishment of fossil fuels as primary source of energy and fuel for the emerging economic system, capitalism. The invention of the machine and the factory broke down existing notions of space and time, increased productivity fueled population growth, nature became a reservoir of resources to be exploited, the infrastructure necessary for the fast re-location of goods (railways) emerged, and the push for urbanization uprooted

² By the way, that doesn't necessarily mean that we agree with official historiography, nor with the conventional evolutionistic theory of human species. A very interesting, original and unusual point of view on primitive societies is found in D. Graeber and D. Wengrow, *The Dawn of Everything*, 2021

people from their homelands and reduced them to commodities in the labor market.

The **new industrial paradigm** made possible the vicious circle of capitalist voracity that we still see at work today: new fossil energy sources (coal, then oil) made possible the improvement of raw material capacities, which were used again to build new machines that required more energy and more raw materials...

In turn, the mechanization of labor, far from freeing workers from drudgery, as prophesied by socialist (even anarchist and communist...) theory, also in the grip of positivist enthusiasm for progress, turned the working class into slaves to machines and their mechanical rhythms, creating new needs in both production and consumption. The history of the twentieth century has taught us that, far from emancipating the working class from the yoke of the master through the appropriation of the means of production, the myth of productive expansion and the extraction of resources, which is its primary source of nourishment, has fueled the will to power and military supremacy of the states, regardless of the democratic-capitalist, imperialist or communist form of their apparatuses, leading their subjected populations to slaughter each other in the two world massacres.

In the twentieth century, we see another historic transition with the advent of the **age of oil**, which became and remains the fossil fuel par excellence. The gradual shift from coal mining (which, by the way, has never been abandoned) to oil, first of all, allowed the states to ignore the demands of the most oppressed workers of the time (also because of their terrible living conditions), namely the miners. Second, the unprecedented economic expansion affected all productive sectors, from the construction of ever more powerful machines, now powered by much more energy, to the automobile market, from the petrochemical industry derived from the by-products of refining to the marketing of chemical fertilizers and pesticides for agriculture. Not to mention the enormous leap forward in the war industry and chemistry as a means of extermination.

The advent of oil has changed the face of cities and the countryside, sown the seeds of wars, massacres, environmental destruction, corruption, and coups d'état, both in the so-called Western countries and in the countries of extraction, first and foremost in the Middle East.

It is clearly an extraordinary task to trace a complete historical continuum on the issue of resource extraction and its leading role in the construction of the existing as we know it today. This brief and superficial mention is useful to outline a starting point, some preliminary theses:

1. Resource extraction is a fundamental pillar of capitalism. Whether it is political governance, economic or geopolitical strategy, whether it is states or corporations, nothing that constitutes domination could exist without extracting raw materials and energy.

2. The evolution of the kinds of materials extracted is in response to precise strategic needs, and this is not a new issue: old mines that have been abandoned are today being reopened, or previously discarded materials are being re-examined, either because the evolution of mining techniques allows them to be reworked at lower cost, or because there are several items now considered desirable, if not **critically** important.

3. Just as in the 15th and 16th centuries the search for and conquest of new materials and commodities (spices, precious metals, etc.) and new territories and populations to exploit fueled the colonialist explorations and wars necessary for the then-dominant mercantilist economy, **today capitalism needs neocolonial extractivist practices to survive and expand its markets.**

2. What about today?

Lithium and rare earths will soon be more important than oil and gas: our demand for rare earths alone will increase fivefold by 2030. [...] We must avoid becoming dependent again, as happened with oil and gas. [...] We will identify strategic projects along the entire supply chain, from extraction to refining, from processing to recycling. And we will build strategic reserves where supply is at risk. That is why today I am announcing a European law on critical raw materials.

Ursula von der Leyen, President of the European Commission, September 2022

Today's "gold rush" by mining companies targets so-called rare earths, rare metals, transition minerals or critical raw materials: in fact, this is causing no small amount of confusion, as these terms seem to be interchangeable, but refer to different, only sometimes overlapping elements.

Rare earths (rare not because of quantity-they are widely available-but because of the low concentration at which they are found in mineral deposits) are 17 elements (15 lanthanides plus scandium and yttrium: elements with atomic numbers 21, 39, and 58 through 71 in the periodic table): they are used to harden, lighten, and add strength, lightness, magnetic, and conductive properties to alloys.

They are also used to power electric car motors, wind turbines (permanent magnets), smart phones (seven different ones are needed just to make touch screens), medical instruments, and some types of rockets. One of the areas where the use of these raw materials is most in demand is in the **military sector**. Because of their low concentration, the process of separating rare earths from other rock components requires a great deal of energy, water, and chemical solvents.

Rare metals is the conventional name for a group of more than

1	H	Hydrogen	2	He	Helium
3	Li	Lithium	4	Be	Beryllium
11	Na	Sodium	12	Mg	Magnesi...
19	K	Potassium	20	Ca	Calcium
37	Rb	Rubidium	38	Sr	Strontium
55	Cs	Caesium	56	Ba	Barium
87	Fr	Francium	88	Ra	Radium
			21	Sc	Scandium
			39	Y	Yttrium
			57	La	Lanthan...
			89	Ac	Actinium
22	Ti	Titanium	23	V	Vanadium
40	Zr	Zirconium	41	Nb	Niobium
72	Hf	Hafnium	73	Ta	Tantalum
104	Rf	Rutherford...	105	Db	Dubnium
			106	Sg	Seaborg...
			107	Bh	Bohrium
			108	Hs	Hassium
			109	Mt	Meitnerf...
			110	Ds	Darmsta...
			111	Rg	Roentge...
			112	Cn	Coperni...
			113	Nh	Nihonium
			114	Fl	Flerovium
			115	Mc	Moscovi...
			116	Lv	Livermo...
			117	Ts	Tennes...
			118	Og	Oganes...
24	Cr	Chromium	25	Mn	Mangan...
42	Mo	Molybde...	43	Tc	Technet...
74	W	Tungsten	75	Re	Rhenium
106	Sg	Seaborg...	107	Bh	Bohrium
108	Hs	Hassium	109	Mt	Meitnerf...
110	Ds	Darmsta...	111	Rg	Roentge...
112	Cn	Coperni...	113	Nh	Nihonium
114	Fl	Flerovium	115	Mc	Moscovi...
116	Lv	Livermo...	117	Ts	Tennes...
118	Og	Oganes...			
26	Fe	Iron	27	Co	Cobalt
44	Ru	Ruthenium	45	Rh	Rhodium
76	Os	Osmium	77	Ir	Iridium
108	Hs	Hassium	109	Mt	Meitnerf...
110	Ds	Darmsta...	111	Rg	Roentge...
112	Cn	Coperni...	113	Nh	Nihonium
114	Fl	Flerovium	115	Mc	Moscovi...
116	Lv	Livermo...	117	Ts	Tennes...
118	Og	Oganes...			
28	Ni	Nickel	29	Cu	Copper
46	Pd	Palladium	47	Ag	Silver
78	Pt	Platinum	79	Au	Gold
110	Ds	Darmsta...	111	Rg	Roentge...
112	Cn	Coperni...	113	Nh	Nihonium
114	Fl	Flerovium	115	Mc	Moscovi...
116	Lv	Livermo...	117	Ts	Tennes...
118	Og	Oganes...			
30	Zn	Zinc	31	Ga	Gallium
48	Cd	Cadmium	49	In	Indium
80	Hg	Mercury	81	Tl	Thallium
112	Cn	Coperni...	113	Nh	Nihonium
114	Fl	Flerovium	115	Mc	Moscovi...
116	Lv	Livermo...	117	Ts	Tennes...
118	Og	Oganes...			
32	Ge	Germani...	33	As	Arsenic
50	Sn	Tin	51	Sb	Antimony
82	Pb	Lead	83	Bi	Bismuth
114	Fl	Flerovium	115	Mc	Moscovi...
116	Lv	Livermo...	117	Ts	Tennes...
118	Og	Oganes...			
34	Se	Selenium	35	Br	Bromine
52	Te	Tellurium	53	I	Iodine
84	Po	Polonium	85	At	Astatine
116	Lv	Livermo...	117	Ts	Tennes...
118	Og	Oganes...			
36	Kr	Krypton	37	Xe	Xenon
54	Kr	Krypton	55	Xe	Xenon
86	Rn	Radon	87	Og	Oganes...
118	Og	Oganes...			
38	Ar	Argon	39	Kr	Krypton
18	Ne	Neon	19	Ar	Argon
10	Ne	Neon	11	Ar	Argon
18	Ne	Neon	19	Ar	Argon
36	Ar	Argon	37	Kr	Krypton
54	Kr	Krypton	55	Xe	Xenon
86	Rn	Radon	87	Og	Oganes...
118	Og	Oganes...			
58	Ce	Cerium	59	Pr	Praseod...
90	Th	Thorium	91	Pa	Protact...
60	Nd	Neodym...	61	Pm	Prometh...
62	Sm	Samarium	63	Eu	Europium
64	Gd	Gadolin...	65	Tb	Terbium
66	Dy	Dyspros...	67	Ho	Holmium
68	Er	Erbium	69	Tm	Thulium
70	Yb	Ytterbium	71	Lu	Lutetium
92	U	Uranium	93	Np	Neptunium
94	Pu	Plutonium	95	Am	Americium
96	Cm	Curium	97	Bk	Berkelium
98	Cf	Californ...	99	Es	Einstein...
100	Fm	Fermium	101	Md	Mendele...
102	No	Nobelium	103	Lr	Lawrenc...

- Alkali metals
- Metalloids
- Actinides

- Alkaline earth metals
- Reactive nonmetals
- Unknown properties

- Transition metals
- Noble gases

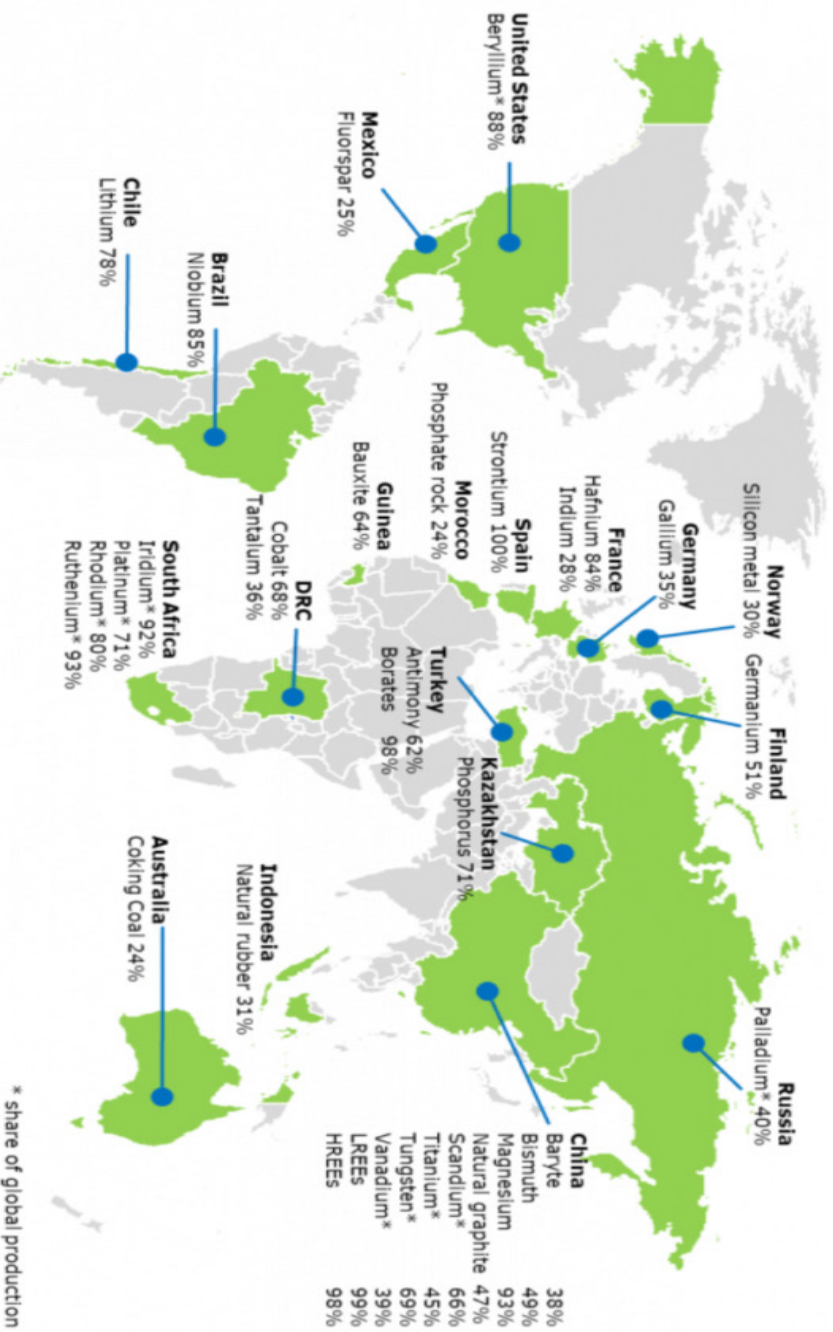
- Post-transition metals
- Lanthanides

50 metals. They are also referred to as **technology metals, strategic metals, or minor metals**. It is the largest category of elements, including rare earths, which are further divided into **technological metals** (cobalt, uranium, cadmium, lithium, tantalum, etc.) and **rare metals in the narrower sense** (gold, platinum). They are often obtained as by-products of base metals, so the problem is that their supply mostly depends on the production of the latter. Their definition is fluid and changes according to demand; lithium, for example, is about to join the list of rare metals because of its use in electronic memories.

Transition minerals are those elements that are essential for the so-called energy (or rather electrical) transition. They include copper (essential for anything that generates electricity), cobalt, nickel and lithium, which are needed for batteries, zinc for wind turbines, silicon for photovoltaic and semiconductors, and chromium for nuclear power plants.

Critical or strategic raw materials, according to the recent agreement between the EU Parliament and Council (Critical Raw Materials Act) to ensure supply aimed at import diversification and self-sufficiency (which we will discuss in a future article), are: Antimony, **Bismuth**, Feldspar, Helium, **Manganese**, Phosphorus, Tantalum, Arsenic, Boron, Fluorspar, **Heavy Rare Earths**, **Natural and Synthetic Graphite**, **Platinum Group Metals**, **Metallic Titanium**, **Cobalt**, **Gallium**, **Light Rare Earths**, **Nickel**, Scandium, **Tungsten**, Barite, Coke, **Germanium**, **Lithium**, Niobium, **Silicon Metal**, Vanadium, Beryllium, **Copper**, Hafnium, Magnesium, Phosphorite, Strontium, **Aluminum/Bauxite**. The elements in bold are considered both “critical” and “strategic”, obviously in terms of the “green” and digital transition, as well as for European industries and strategic technologies in sectors such as space and military. One can see why import diversification is so important to the EU: for example, it is currently 100 percent dependent on China for heavy rare earths, 98 percent dependent on Turkey for boron (essential for wind turbines, glass,

Countries accounting for largest share of EU supply of CRMs



* share of global production

and chemical fertilizers), and 71 percent dependent on South Africa for platinum. Among the various targets set by this agreement is at least 10 percent of the raw materials consumed by 2030 (the date of the EU's supposed decarbonization) should be extracted on European soil.

The **criticality** of these materials, and thus the push for a diversified and as much as possible domestic supply, is in turn due, according to researchers and politicians, to a succession of crises: climate, energy, pandemic, political (i.e. the war in Ukraine). It seems to us that this is yet another piece of the politics of **permanent emergency**, a useful precursor to exceptional legislation, easy concessions that do not require environmental impact assessments, repressive measures...

3. Extractive Economy

*Money is indeed the most important raw material.*³

Once we have mentioned the historical roots of **this way of thinking and its related practices**, it is worth looking at a further aspect that can help us understand the scope and importance of this phenomenon and why, in other words, we are witnessing today the great return of mining.

Raw materials, whether they are agricultural products, energy resources, metals or minerals, are considered commodities for the capitalist market, and they gain or lose value according to (often very complex) economic mechanisms that can be traced back to the basis of what governs commerce: **supply and demand**. As we know, when demand for a good is greater than the supply, its price on the market rises, and vice versa, when the supply is greater, it falls.

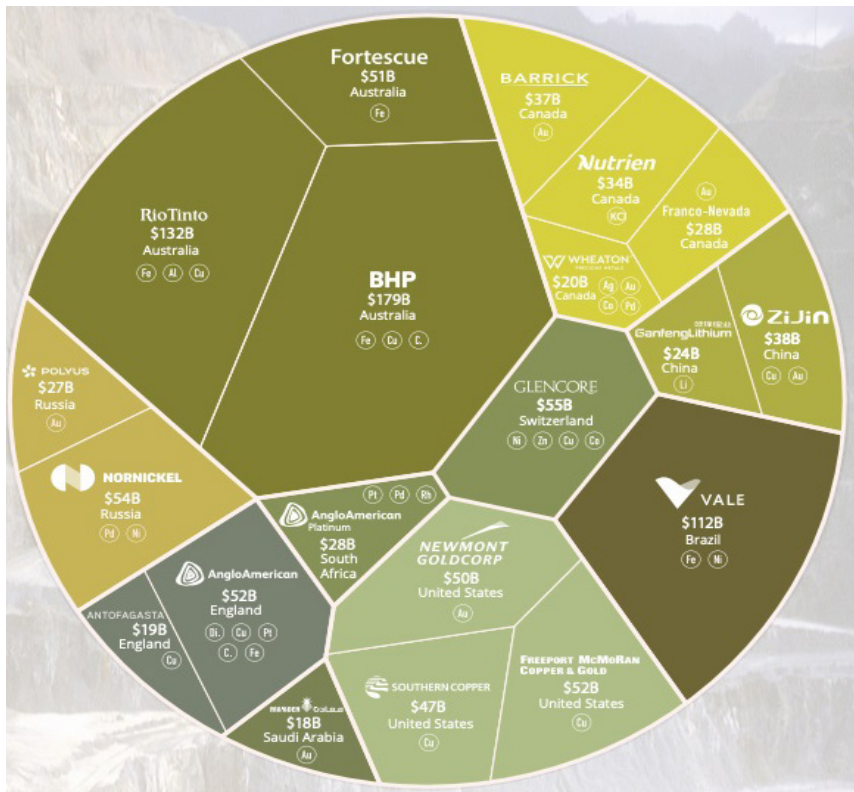
So, if we are talking today about extractivism driven by the rare

³ La Guerra del Sottosuolo (The Subsoil War), Hourriya international editions. Available in French and Italian.

earth boom, it is because for several reasons (which we will try to explain) these metals and minerals are now in high demand and therefore very profitable.

There are a myriad of factors that influence supply and demand trends. Some are structural (such as the drive for perpetual growth, industrial development) and some are conjunctural (wars, pandemics, financial crises).

Governments, in turn, influence market trends both on the de-



mand side (through the allocation of resources such as the NRRP) and on the supply side (state-owned or -controlled companies, favourable taxation, export quotas, suppression of protests to attract investment). This is further complicated by the fact that in today's financial economy, commodities and their derivatives are listed

on the stock exchange, and financial speculation plays a decisive role in the development of supply and demand, abstracting them almost completely from their actual material bases [*“commodities become paper”*]. We admit that the workings of financial trading, while of the utmost importance, are somewhat difficult for us to understand, and so we defer to reading texts that are much better informed on the subject than we are.

Here, in addition to our analysis, we find it interesting to give concrete examples of current trends in the rare earths trade and who are the key players in the extraction processes.

Leaving aside for a moment the states, their geopolitical strategies and the current legislation on the subject of critical raw materials, who are the private entities that, away from prying eyes, are profiting the most from mining and marketing of rare earths?

To put it as simply as possible, rare metals trade is particularly vulnerable to price fluctuations and requires large capital investments to find deposits, to build plants, to extract and separate, and finally, since it is mainly for export, to transport. For example, by the time a cargo ship is loaded with tons of material and arrives at destination, the price of the loaded material on the London Stock Exchange may have fluctuated countless times and even dropped dramatically. Traders borrow heavily (from banks or hedge funds) and enter into futures contracts with buyers (themselves listed on the exchange, as derivatives) in order to finance themselves and protect themselves from risk (*hedging*). The financial intermediaries (the trading companies) carry out the trades either for themselves, if they have the necessary wealth, or for third parties, prospering by speculating on financial derivatives and credit interest rates. There are only a handful of large trading companies that have the ability to enrich themselves outside of government constraints and dominate commodity trading.

On the energy front, the most important are Vittol, Gunvor; Tra-

4 *Ibidem.* For example, we recommend reading the chapter entitled “*Dietro le quinte (Behind the Scenes)*” in the book mentioned above, which is very helpful in understanding how commodities trading works..

figura, Mercuria and Koch. For minerals, Glencore/Xstrata, Trafigura and Noble; economically, politically and socially, these multinational giants carry immense weight.

Sniffing out a bargain, in the post-crisis years of 2009 they are increasingly betting on vertical integration of economy - that is, they tend to no longer settle for mere commodity trading - but rather aim to gain control of the entire production chain. In fact, the profit margins of extraction and processing are much higher than those of commodity trading, and the operation becomes profitable in any scenario: in times of crisis, when production is worth less, trade takes off. Conversely, in times of expansion, strong demand pushes up material prices and production profits, while trading suffers. Glencore, for example, has become the fourth largest mining company in the world; this oligopolistic control and enormous availability of capital not bound to any state (no imposed strategic stockpiling, no embargoes) allows these companies to take advantage of any instability (political, climatic) to stockpile goods on their own and to speculate on rising prices. The power and influence of these companies behind the scenes of the extraction processes is probably as enormous as it is unknown.

4. How it works

Everything that is not cultivated is mined.

But let's take a closer look at how the mining process works. From exploration, to project approval, to the actual starting of mineral extraction, with some practical examples. In the field we are dealing with, companies are usually divided into juniors and majors. A **junior** is a small company, sometimes even a family business, with limited financial, human and technical resources.

A junior company is like a mining start-up: either it is looking for funding to grow, or it is looking for a much larger company to buy in; specifically, it is often involved in the exploration of old and

new mineral or energy deposits. The first phase, once the necessary licenses have been obtained, is prospecting: an indirect exploration of the subsoil using various methods (seismic, gravimetric, electrical or magnetic) that make it possible to locate deposits by taking measurements on the surface and underground, along wells and tunnels, and by analyzing data from geological services. This is followed by a research phase to determine the characteristics and size of the deposit, as well as the nature and properties of the minerals it contains.

Once the study is completed, it will report the results (if positive) to shareholders or the public to demonstrate that it has assets, try to attract investment to raise capital to continue, or partner with a larger company to reduce costs. In some cases, it may also attempt to be acquired by a larger company (the **major**). The latter, as the name suggests, are in fact the mining companies with large capital at their disposal, the ability to operate on a global scale, and a long history of exploitation. Thanks to these operative connections, these are the companies that have the necessary funds for the construction of mining facilities (curiously called **mining cultivations**) and will profit from the sale of raw materials.

To give a practical example, the junior company looking for titanium in Beigua is the European Titanium Company (C.E.T.), which, despite its impressive name, has a share capital of just 10,000 euros.

5. The revival of the Italian mines

Let us read directly the words of Marcello de Angelis⁵, director of

5 Not to be confused with the Lazio regional councillor of the same name, a notorious fascist who became famous in August 2023 for denying the neo-fascist matrix of the Bologna train station massacre. The de Angelis in question received his doctorate in geological sciences from the University of Naples in 1966 and “boasts” 55 years of experience in the exploration and development of uranium and base and precious metals in various countries around the world. Having most recently held corporate positions as Executive Vice President of Agip Resources Ltd and Agip Canada Ltd until 1992 and Managing Director of Pestarena Gold Mines SrL (Italy) until 2001, he is currently a

the Italian subsidiaries of Altamin (a company we will discuss in the next chapter), very clear and at the same time disturbing (written, we imagine, to promote himself to an English-speaking audience of investors):

Italy's Mining Heritage

Italy, a country well known for art, architecture and food, also has a vast industrial heritage linked to the mining and processing of minerals. Viewed through the lens of Italy's long documented mining history, it is possible to understand how Italy is one of the places where culture and art developed in conjunction with the extraction of ore.

The Italian mining history dates back to the early Italian populations, including the Roman Empire, and was revived in the Middle Ages. The first Mining Code was published in Massa Marittima (Tuscany) in the middle of the 14th century, a code that is essentially still in force nowadays all over the world with the exception of a few countries.

Mining sites are the typical combination of industrial, archaeological, cultural, historical and landscape heritage around which social aggregations and communities developed, thus determining the essential conditions for the economic and social growth of the country. The remains and testimonies of over twenty-eight centuries of mining activity along the peninsula provide a considerable wealth of scientific, anthropological and cultural-historical data.

In the early 80s, for political rather than commercial reasons, practically all mines – particularly those that were managed by majority State-controlled entities – were closed or decommissioned. Many sites underwent reclamation to respond to environmental issues and, on the whole, there was no national plan to

Director and Consultant of Energia Minerals (Italy) SRL and Strategic Minerals (Italy) SRL, both wholly owned subsidiaries of Altamin LTD. He also owns a private Australian company incorporated in 1996, Etruscan Gold Exploration Pty Ltd.

continue with mining activities.

At present, Italy has a comprehensive mining law which, although dated to 1927, is very similar to countries where mining is one of the major revenue-producing activities. Environmental legislation associated with mineral activities is also well defined and in line with European Union (EU) directives.

The Italian mining law defines minerals in two categories: The first category (minerals of national interest) includes metals, metalloids, graphite, precious stones etc.; the second category (minerals of local interest) includes peat, building and dimension stones, silica sands, quartz, and bentonite. Mineral exploration and mining is permitted for individuals or companies that submit a request for an exploration or a mining licence.

Over the last decade mineral activity in Italy has undergone a resurgence: a number of companies, mainly from Australia, have recognised the potential to develop old mining districts in the light of new concepts and technologies.

This change is seen favourably by the Italian government and several permits have been granted for a number of commodities, most of which include the so-called Critical Raw Materials (CRM) defined by EU directives and aimed at promoting mineral extraction and processing within the member States in order to lessen dependence from other countries.

Italy's Government is strongly in favour of the EU's Critical Raw Material Act (CRMA) having called for the "reopening mines or creating new mines" to revive Italy's strong mining legacy. The Government is open to reform the legislation to create a supportive environment for producing CRMs domestically, boosting economic self-resilience and energy transition. Altamin is a fast mover in this space, having been active in restarting Italy's long dormant but prospective mineral districts since 2015.

Reading the ISPRA⁶ data, it can be seen that the closed Italian mining districts he is talking about are those that were involved in the extraction of **metalliferous minerals** (the peninsula is still dotted with active non-metallic mineral quarries - in 2020 there were 3.335, of which 2.081 producing - extracting sandstones, limestones, clays, sands, rocks, peat, rock salt...). The political rather than commercial reasons for their dismissal in the 1980s relate on the one hand to the alleged depletion of resources, and on the other hand, to a greater extent, to economic policy choices, as it was more convenient to import cheaply than to invest in the renovation of environmentally and technologically obsolete mines.

Instead, the trend in recent years has been to *“recover the relevant scientific, technological and managerial skills, which must be partially or fully reconstructed through specific training processes involving universities, research organizations, professional associations and federations, trade and environmental associations, and also Italian professionals working abroad”* in order to keep up with the new capitalist development model (the fourth industrial revolution - electronics, robotics, artificial intelligence, IOT (internet of things), connectivity - and energy transition goals), thus **moving from dependence on fossil fuels to dependence on mineral resources**.

Currently, several exploration permits are active in the peninsula (nickel, lead, zinc, cobalt, gold, silver, copper, PGE, rare earths, Ti) in the Alpine arc (Piedmont and Lombardy) and in Liguria; in Sardinia, searches for iron, lead, silver, zinc, rare earths and magnetite are at an advanced stage. Closed mines and waste materials are more likely to be explored: ISPRA claims that *“mining activities closed or abandoned prior to Dlgs117/08 have left large quantities of mining waste in storage structures (dumps and tailings ponds), even of considerable size. In the Sardinian mining district, the most important in Italy, there are about 70 million cubic meters of it, which results in a high environmental impact”*.

6 Superior Institute for Environmental Protection and Research in Italy.

It is precisely in these stockpiles that “*interesting*” concentrations of critical raw materials have been found, and there is a vague reference to “*regulatory constraints*” that must be overcome in order to reuse them. However, there is no mention of the environmental impact of this further processing, which, as we know, is usually associated with a high consumption of water and chemical solvents, which then pollute the waterways and soils where they are dumped as waste.

ISPRA is working on a survey of all mining sites on the Italian territory in order to create and update national databases (National Mineral Resources Information System and GeMMA-National Database of Solid Georesources). Currently, 3016 sites operating between 1870 and 2020 have been catalogued.

Given the historical importance of Sardinia (a land that has always been considered as an inland colony) for its mining activities, especially of metallic materials, the starting point of this renewed interest is the creation of the new metallogenic map of the island, which will serve as a prototype of the national map. The previous national mining map dates back to 1973⁷ and was largely based on known and exploited deposits. The second world energy crisis of 1979-80⁸ made energy a key factor of the inflation crisis of the 1970s and 1980s, and the search for new sources of energy began. In the 1980s and 1990s, a major project for the exploration of basic mineral resources (RIMIN) was carried out in Italy, which identified areas “*Targeted for operational mineral exploration.*”

Since then, research has been limited to university studies and the few research permits granted, complain the grey eminences of ISPRA, later delighted by the upward trend in mining commodity prices that gives new importance (read: attracts new capital in-

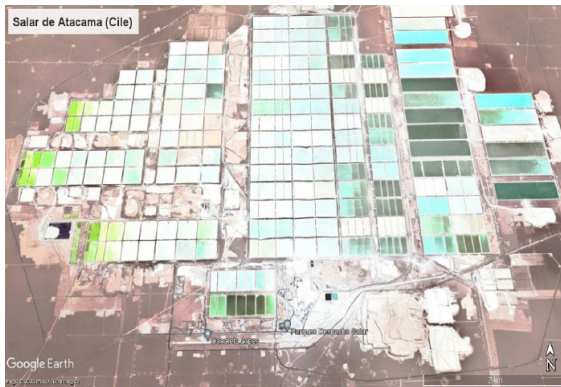
7 Note: It is probably no coincidence that the development of this paper coincides with the first major oil shock- the sudden increase in crude oil prices decided by OPEC to support Egypt and Syria in the so-called Yom Kippur War against Israel.

8 Islamic revolution in Iran and war between Iran and Iraq.

vestment) to Italy's troubled deposits.

This is what is going on in our “backyard”, all a flowering of promising analyses, explorations, core drillings, good intentions and good hopes for a green Australian dollar-colored future and to gain some strategic importance in the eyes of the European Union, which maybe - who knows - might then one day be convinced to turn a blind eye to Italy's galloping public debt and might even put a hand in its pocket to finance this wonderful plan of sustainable (*sic!*) Made-in-Italy extractivism...

But, to be honest, something is not quite right. The issue of environmental impact of extractive sites is treated in a rather vague and superficial way in the countless documents sponsored by various research agencies (ISPRA, ISTAT, IEA at the European level)



that we have been able to consult. They shift between images of devastation caused around the world by Rio Tinto, Glencore & Co, emblems of bad and outdated extractivism, and admittedly no less frightening images of clean, therefore good, (in some cases even called **ethical**)

extractive companies on European or British soil, as to say that there are cutting-edge technologies that make extraction non-invasive, environmentally safe, committed to reuse, with no impact even on those people in the first world, who certainly will not end up like those poor people in underdeveloped countries. Now, the people of the “first world” will undoubtedly be better off than the discarded humanity on whose exploitation Western capitalism has thrived, but **do we really want to believe the fairy tale of sustainable extraction?**

Beyond the contradictions of this “environmentalist turn,” to which we will return later, let us now look at how one of the largest companies currently involved in Italian extractivism operates.

6. The case of Altamin in Italy

When analyzing how mining companies operate, one often has the impression that we are dealing with a Chinese box mechanism, in which a company subcontracts the various stages of exploration and prospecting to itself, either through its own subsidiaries or through joint ventures. Indeed, if we look at what is happening at the mining level on the peninsula, we see how many exploration licenses are granted to companies with different names, but which then go back to the same parent company: for example, the ongoing projects of the Australian company Altamin Ltd⁹ (formerly Alta Zinc).

The Company is present in Italy in the old Bergamo mines of Gorno (zinc and lead, closed in '82)¹⁰, through **Vedra Metalli** (Via Roma 492, 24013, Oltre il Colle, Bergamo), a special purpose joint venture between Altamin (through its wholly owned subsidiary **Energia Minerals**) and **Appian Capital Advisory**, and aims to revive Italy's first metal district in 40 years. In addition to the *Gorno project* (2021), in January 2022, the then Ministers Cingolani (Transition) and Franceschini (Culture) authorized new mining exploration on Mont Blanc, necessary to map the presence of materials such as gold, silver and copper, which will include

9 For an overview of Altamin's work in Italy, see its quarterly report at <https://wcsecure.weblink.com.au/pdf/AZI/02734204.pdf>

10 The new course of the Gorno mines includes two mining concessions called Val Seriana and Val Brembana, whose deposits consist mainly of lead and zinc ores in sulphide and oxide forms, which were exploited in much more recent years by the British company Crown-Spelter, which was succeeded by the Belgian company Vielle Montagne, from 1940 by Ammi and finally by SAMIM (a state-owned company and part of ENI, where Marcello De Angelis, now the number 1 of Altamin's Italian subsidiaries, worked). The mines were abandoned after the unilateral decision to close all SAMIM-owned metal mines in Italy to focus exclusively on oil and gas.

the Graveglia, Petronio, Gromolo and Vara valleys, concessions that have sparked protests and opposition from all the municipalities affected. The project is called “*Monte Bianco Mining Research*” and was presented last April, also by Energia Minerals (Corso di Porta Romana 6, Milan), and the area affected by the research is very large, about 8 thousand hectares, including the territories of the municipalities of Sestri Levante, Nor, Casarza Ligure and Castiglione Chiavarese, also taking part of the natural area of the Aveto Park. The chemical elements targeted by Energia Minerals, which has so far limited itself to analyzing data from past mining activities, are also zinc, manganese, rutile, aluminum and titanium.



The *Punta Corna cobalt project* in Piedmont, which involves the drilling (already authorized but in the initial stages) of a rocky outcrop between the Veil and Servin valleys for the extraction of cobalt, nickel, copper and silver, is again in the hands of the Italian subsidiary Energia Minerals, while another subsidiary, **Strategic Minerals Italia** (Corso Re Umberto I 7, Turin), is in charge of geological prospecting.

More recently (April 2023), Altamin (still unclear through which subsidiary) obtained an exploration license for the *Monte Corchia project* in Emilia Romagna, another abandoned mining district to be revived, this time in search of copper, cobalt and associated metals.

Last but not least is the *Villar project* in Piedmont, 40km south of

Punta Corna, whose application for a permit was submitted by the usual Energia Minerals Italia for the exploration of five graphite mines abandoned in the 1980s.

These recent examples show that the main targets of European mining sovereignty are once again the mountains: not only the Alps and the Apennines, but also the French Massif Central, the Pyrenees and the Balkans are now threatened by the great return of mining¹¹.

Altamin (and beyond) is also a major player in the lithium race on Italian soil. But before we look at the specific project, let's examine the issue of **one of the most strategic raw materials for the electricity transition**.

7. “White Gold”: Lithium

First of all, **what is lithium, what is it used for, and where and in what form is it found**¹²?

Let's start with the properties of lithium. It is a highly reactive alkali metal with excellent thermal and electrical conductivity. For this reason, it is used in a wide range of applications, including the manufacture of lubricants, glass, pharmaceuticals, and, most importantly, as **the cathode for the lithium-ion batteries that power electric cars and the vast majority of consumer electronics**. The expansion of electric mobility, required by the European agenda and driven by local policies - such as the

¹¹ To learn more about Punta Corna and the resource curse, see the interesting article that appeared in Nunatak magazine, No. 63 Winter 2022, and can be found at <https://www.mountainwilderness.it/energie-rinnovabili-e-risorse/punta-corna-e-il-nuovo-estrattivismo-verde-europeo/>. For a complete map of European extractive projects, see the European Geological Data Infrastructure website, <https://www.europe-geology.eu>.

¹² Extensively taken from <https://www.greenme.it/ambiente/energia/estrazione-del-litio/>

much-discussed new ZTL¹³ in Rome metropolitan area - requires more battery accumulation systems, hence the ever-increasing growth of the lithium market. In Europe alone, the number of electric vehicles is expected to grow from 2 million today to 40 million by 2030, and according to the same estimates, the Commission predicts an 18-fold increase in demand for lithium¹⁴.

Lithium is not found in its elemental form, but as a component of salts or other compounds such as lithium carbonate. Lithium salts are found in underground deposits of clay, minerals, salt lakes, seawater and geothermal water. However, most lithium is extracted from mines. Some of the most important are in Australia and China, where there are deposits of spodumene pegmatite, a type of rock that contains lithium.

The highest concentrations of lithium (1,000 to 3,000 parts per million) are found in saline lakes, also known as salars. These are mainly located in Bolivia, Argentina and Chile: the so-called “**lithium triangle**”, which alone holds between 50 and 85 percent of the world’s reserves. The next richest source is China.

In 2022 eight active large-scale plants¹⁵ were producing lithium from continental brines¹⁶. Seven of these use evaporation techno-

13 ZTL is the limited traffic area, which has recently been renamed “Green Area”, embracing most of the city with dozens of new cameras. The aim is to limit polluting cars and push the electric car market.

14 Worldwide, the number of electric vehicles has grown from a few thousand in 2010 to 11.3 million in 2020, and is expected to reach 142 million by 2030. Lithium production, on the other hand, will triple between 2010 and 2020, and is estimated to grow 18 to 20 times by 2050 using current methods, and 50 times if more economically sustainable methods are found.

15 Active brine lithium extraction plants and their production capacities in 2022, expressed in tons of lithium carbonate extracted per year: Clayton Valley (USA): 6,000 t; Lake Zabayu (or Zabuye), Dongtai Salt Lake and Xitai Salt Lake (China): 37,300 t; two plants at Salar de Atacama (Chile): 121,190 tons; Salar del Hombre Muerto (Argentina): 26,000 tons; Salar de Olaroz (Argentina): 11,406 t.

16 Brines are aqueous solutions of extremely high ionic strength, with total dissolved solids values of 100-400 g l⁻¹; most of the solids are inorganic salts. Of these, continental brines are those found in underground reservoirs within salars, typically in

logies: brines are pumped from underground reservoirs into open pit basins where they await evaporation.

It is a long and complicated process that can take anywhere from eight months to three years¹⁷. It begins with drilling a hole and pumping brine to the surface. The unearthed minerals are then left outdoors for months to evaporate, initially producing a mixture of manganese and potassium salts and boron, which is filtered and placed in another evaporation tank.

More than 90 percent of the salts other than lithium chloride present in the original brines spontaneously crystallize in the ponds and are considered waste. These original brine constituents end up as salt mixtures that accumulate near the brine deposits and pose a risk of slow leaching after infrequent rainfall. The exact amount of waste is estimated based on the brine composition and recovery rate. The average waste generation is 115 tons per ton of lithium carbonate¹⁸.

It takes between 10 and 24 months to filter the mixture sufficiently to extract the lithium carbonate.

The concentrated brine is then sent to a refining plant to remove impurities¹⁹. Fresh water is required at various stages of this process²⁰.

In addition, brine extraction taps two separate aquifers, brine and fresh water, which may become physically connected. The volume of brine directly determines the amount of freshwater that natu-

places with arid climates.

17 Production startup, on the other hand, takes about 4 years.

18 For an annual production of 10,000t, 1.15×10^7 m³ of waste will accumulate after ten years, which, if disposed of at ground level to a height of one meter, will occupy an area of 11.5 km² (corresponding to an area larger than that of Abruzzo, just to give an idea).

19 Precipitation of lithium carbonate (Li₂CO₃) by the addition of sodium carbonate (Na₂CO₃).

20 Including: dissolution of 1 calcium oxide (CaO), which is required to precipitate magnesium (Mg²⁺) and sodium carbonate (Na₂CO₃), scrubbing of organic solvents (used for borate removal), washing of lithium carbonate crystals, and steam generation.

rally flows from the freshwater aquifer to the brine aquifer and mixes with it. The amount of freshwater flowing to the *salar* is different during brine pumping or in the absence of mining activity, and this figure should be added to the freshwater expenditure count²¹. A decrease in the area of lagoons²² or stream flow is a direct indication of water scarcity, and observation wells have shown a significant decrease in the water table²³; a decrease in freshwater levels can also be inferred from changes in flora and fauna²⁴.

Although this method is cheap and effective, it requires a lot of water (an estimated 1.8 million liters of water per ton of lithium mined).

This fact alone puts pressure on local communities. In Chile's Salar de Atacama, for example, mining has led to the loss of 65 percent of the region's fresh water, putting a strain on local farmers who have had to look elsewhere to continue their work. The most obvious effect of mining in these already arid areas is persistent drought and a trend toward desertification.

Toxic chemicals such as hydrochloric acid used in lithium processing and other waste products can leak from evaporation ponds. In the United States, Canada and Australia, lithium is usually extracted from rock using more traditional methods. However, even this method requires the use of chemicals and water to extract it into a usable form. In Nevada, for example, researchers found evidence of contamination in fish swimming 250 km downstream

21 Satellite data reveal that total water accumulation in the Salar de Atacama decreased by-1.16 mm per year from 2010-2017, and soil moisture indices decreased on average by-0.005 per year from 1997-2017

22 The average winter surface area of the Salar de Atacama lagoons halved over the period 1985-2020.

23 In the region where the brine wells are located, reductions in the water table of up to 9 m were recorded in the period 1990-2015.

24 In the Salar de Acatama, a reduction in James and Andean flamingo populations of 10% and 12%, respectively, has been reported, linked to reduced surface water; on one of the mining properties, one-third of the carob trees, a species known for its drought tolerance, died during 2013- 2017, which is strongly indicative of the shortage of subsurface water.

from a lithium mining site.

The environmental impact of the lithium industry is also related to carbon dioxide emissions, which range from 5 to 15 tons per ton of lithium mined.

In the overall picture, according to a Transport & Environment study, **the increase in emissions from battery manufacturing would be such that it would reduce the climate benefits of using electric vehicles.**

Furthermore, in some cases, such as Chile, mining companies have been accused of forcibly displacing communities and violating the rights of indigenous peoples. Finally, we should not forget that many local economies have become dependent on the mining industry and will suffer if mining slows down.

Since the early 2000s, local communities and some NGOs have raised the issue of the environmental impacts of lithium extraction from continental brines, first in Chile, where operations began 10 years earlier, and then in Argentina.

Initially, life cycle environmental analysis of lithium brine extraction quantified energy consumption and carbon emissions, but did not include impacts on the water cycle or specific land uses. It is only since 2018 that quantitative evidence of the negative environmental impacts of lithium mining has been reported in the scientific literature.

Given the truly un-green impact of lithium mining, research is already underway to replace lithium with less toxic materials for battery production. Another possibility is to recycle lithium-ion, but this is also problematic. Unwanted electronic devices with batteries still inside can end up in landfills, where toxic metals and ionic liquids can leach into groundwater basins. At the same time, there have been several fires at recycling facilities where lithium-ion batteries were improperly stored. In any case, the recycling process is complicated by the fact that manufacturers are very secre-

tive about what is in the batteries. What’s more, in a scenario of continued demand growth, relying on recycling alone will not be enough to meet that demand: the amount of lithium from spent batteries in 2040 is estimated at 60,000 tons per year, or just 5 percent of total supply needs, according to the same forecasts.

8. Direct Lithium Extraction

Direct lithium extraction from brines, DLE (Direct Lithium Extraction), is the latest “environmentally sustainable” solution being advertised as an alternative to the excessive water consumption of evaporitic technology.

Two things are worth noting here. First, the centrality of lithium in the ecological transition has driven countries into a veritable **white gold rush**, seeking to reduce its importation and achieve greater sovereignty in its extraction and recycling, so much that the European Commission, in addition to listing it as a critical raw material, has recognized the lithium battery sector as a “*value chain of strategic importance*,” launching the “*European Battery Alliance*” in 2017 and launching a “*strategic action plan*” in 2018.

Second, as mentioned above, more than half of the continental brine deposits are located in the “lithium triangle”, and the second richest source is China; while large hard rock mineral deposits are mainly located in Australia, China and the United States.

In contrast, many other countries, including European countries, have access to sources of lithium brine, but in less concentrated forms, such as geothermal brines and oil field brines. Unfortunately for them, evaporitic technology is not applicable to these more dilute brines because of the different chemistry, the much longer timescales that would be required for effective concentration, and the fact that most of these deposits are not located in arid regions.

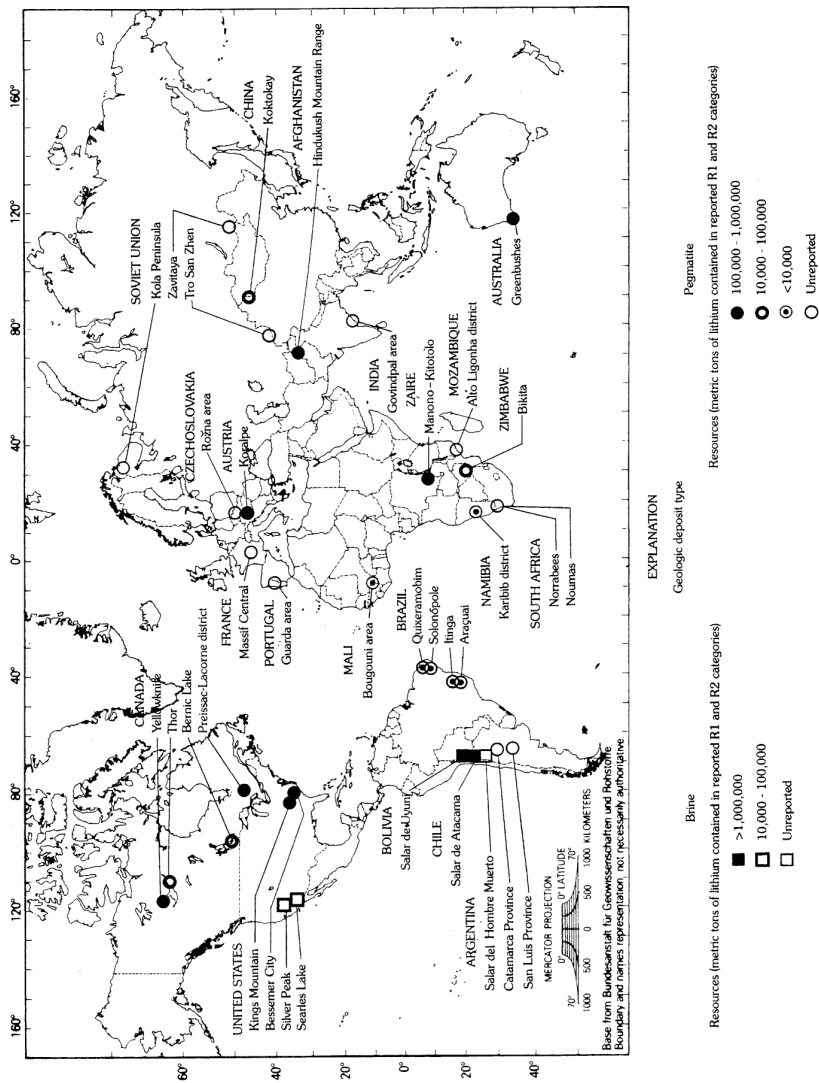


Figure 1.1 Location and reserve estimate of some of the world's lithium deposits (Anstett *et al.*, 1990; reserves: R1 proven, R2 probable).

Economically viable technologies to exploit these more dilute lithium resources are urgently being explored to diversify production. These new technologies are generally referred to as “**direct lithium extraction**” (DLE) and could allow the processing of continental and other more dilute brines without the need for evaporation ponds.

The issue of geothermal lithium extraction is still in its early stages, so its true impact is not yet well understood.

Of course, it is presented to us as a “low-impact”, less water-consuming and “kilometer-neutral” hypothesis; without much explanation as to how this is possible, the media claim that the CO₂ balance needed to build a 50 kWh battery would go from +675 kg to -238 kg, “currency worth more than gold on the ETF (Emission Trading System) market²⁵” another absurd contemporary gag, namely the system that treats greenhouse gas emission allowances as commodities tradable on the climate catastrophe market.

Since there are no examples of plants in production, it is difficult to assess what geothermal lithium extraction will mean in practice, but on the propaganda level there is a proliferation of claims by those who sell it as an immensely preferable solution to traditional extraction and hope to make money from it.

The European Geothermal Energy Council (EGEC) has studied the issue and argues that a single geothermal power plant can produce electricity, heating, cooling and large amounts of lithium in a carbon neutral process. Geothermal plants pump lithium-rich brine directly from geothermal wells to the surface. The heat carried by the brine is then used to produce energy, while the brine, minus the lithium, is injected back into the well. “*The process of separating the lithium from the brine is carried out using electrolytic cells, which certainly have less impact than traditional metallurgical processes,*” explains CNR*’s Andrea Dini. “*However, even the drilling of exploratory wells is not without impact. Extracting*

²⁵ https://www.ilmessaggero.it/tecnologia/moltofuturo/geotermia_litio_batterie_auto_elettriche-6079052.html?refresh_ce

energy from this brine isn't easy either, and geothermal turbines aren't very suitable for it, even though very advanced technology now exists."²⁶

However, we have attempted to outline some data from the scientific literature on the subject.

DLE technologies can be divided into seven general categories²⁷. Although each of them has specific critical issues related to the peculiarities of each mining process, some problems common to all of them can already be highlighted.

These technologies differ in the way they are actually extracted, but they are united by a general pattern of operation. Because lithium ions are only a minor component of geothermal brines²⁸, and because the chemical process is not completed until a pure solid product is obtained, the geothermal brine requires pre-treatment (e.g., heating or adjusting the pH of the brine) in preparation for the key stage of lithium ion capture or concentration (the actual DLE process), which in turn does not produce a pure lithium product, but a purified solution that then requires post-treatment²⁹. These steps consume chemicals, fresh water, and energy, and generate various types of waste and spent brine³⁰.

26 <https://www.renewablematter.eu/articoli/article/il-mondo-ha-fame-di-litio-e-la-geotermia-potrebbe-alleviarla-ma-con-qual-impatto>

27 A grouping of different technologies is proposed here, classified according to seven general principles of physicochemical operation: Ion exchange resins, also known as ion sieves or specific sorbents; solvent or liquid-liquid extraction; electromembrane processes with membranes that are selective for Li⁺ or permselective that are selective for anions or cations; nanofiltration (NF); electrochemical ion pumping, sometimes called electrochemical ion insertion or electrochemically switchable ion exchange; selective precipitation of Li₃PO₄ by Na₃PO₄ addition; thermo-assisted methods for brine concentration other than open air evaporation. These methods include any type of evaporator, distillation apparatus, or membrane distillation.

28 Each brine has a specific composition, but at best lithium accounts for about 1.5 percent of the total dissolved solids.

29 For any DLE that produces a solution that is not concentrated enough, there are two possible solutions: either apply evaporative technology again, the effects of which we have already seen; or apply complementary technologies at high energy inputs. Of the articles analyzed only 10 percent report a concentration that could be considered sufficient for direct crystallization.

30 Brine that has been treated with a direct lithium extraction technology; the

While very thorough chemical analyses and quantitative data are available for the key process of lithium capture or concentration, quantitative data for the pre-treatment of native brine that leads to the feasibility of the specific DLE process are scarce or unavailable, and post-treatment information is also often lacking.

Obviously, all stages of brine treatment should be fully analyzed to evaluate DLE technologies in terms of environmental impact, cost estimation, and to have realistic data on the amount of chemicals required, generation and fate of spent brine, and energy and fresh water requirements. However, we report the data we have found. First, many DLE technologies may require larger volumes of fresh water than current evaporation practices. The text from which we drew the data presented here³¹ analyzes fifty-seven research articles on DLE processes, all written between 2017 and 2022: of these, one-quarter provide no data on fresh water use, thirteen use smaller amounts, nine use similar amounts, and one-quarter use amounts more than ten times that of evaporative technology.

The use of chemicals in DLE³² processes is another highly relevant issue: in addition to the fate of the waste - and the associated environmental damage - and the cost, there will be the problem of transporting these chemicals, especially in remote areas. Since DLE technologies focus on selective lithium capture, there is also the question of where to put the used brines. Many researchers and technologists - and **virtually all of the propaganda about the benefits of DLE** - suggest reinjecting it into geothermal wells.

Practical knowledge about reinjection is scarce, but one can already assume a high risk of altering the structure of stratigraphic basins, with consequent impacts on surrounding ecosystems: spent

concentration of Li⁺ is largely depleted, but the concentrations of other species are similar to those in the native brine.

31 *Ex. nat. rev. earth and env.*, 4, 149-165, 2023

32 Ion exchange resins and solvent extraction often require a change in pH, but processes such as elution and precipitation also require chemicals.

brines contain chemical components exogenous to the original brine, due to leaching of active materials in extraction facilities and pre-treatment (e.g. pH change).

In addition, in 80 percent of cases in geothermal fields, reinjection wells rapidly interfere with production wells, diluting a valuable resource from a technological (and profit) standpoint and reducing the percentage of lithium concentration in the brine.

Alternatives to reinjection are evaporation of spent brine in open reservoirs (as is already done in the Salar del Hombre Muerto in Argentina, where DLE is applied, eluting an insufficiently concentrated solution that is then evaporated anyway) or desalination, an extremely expensive process.

In short, the environmental impacts could only be observed in the long term, but since DLEs use brine anyway, consume fresh water and produce residues, they raise serious concerns regarding the lowering of groundwater levels and the risks of leaching or dumping of accumulated wastes, which would lead to an increase in soil salinity, with consequent drying effects on the land.

It is important to note that not all of these technologies are currently applicable in proportion to the increase in scale that would be required for industrial-scale extraction: given the low concentrations of lithium present, the tons of geothermal brine to be processed are very large, directly conditioning the size of the equipment required. This imposes limitations on the technologies to be chosen³³.

33 For example, membrane distillation and ion-pumping distillation are unthinkable for such quantities of brine for the time being; in solvent-extraction technologies, the volume of organic reagents is generally of the same order of magnitude as the volumes of the aqueous phases, implying that it is practically impossible to apply them on large quantities, but if this were to happen, the environmental damage would be incalculable; the high pressure and high temperature of geothermal fluids pose additional difficulties in the treatment of geothermal brines: after energy recovery, the temperature of the brine is close to 60-80 °C, and the pressure is maintained at a minimum of 25 bar to avoid precipitation phenomena and excessive changes in the composition of the geothermal fluid to be reinjected. Membrane technologies cannot be used at these temperatures without risking premature membrane aging, while liquid-liquid extraction cannot be easily implemented at these pressures. In addition, since sodium

However, it is a field in which companies are investing heavily, both in France, England and California; in the latter, the start of drilling was announced for the *Hell's Kitchen Lithium and Power project*.

In December 2021, a pilot-scale DLE process, adapted from a project originally developed for continental brines in Argentina, successfully extracted lithium from geothermal brine wells located in Soultz-sous-Forets in northeastern France, which were already being used for power generation (we are still talking about the extraction of a few kilograms of lithium). After extracting the geothermal fluid at 180°C at a depth of 2,600 to 5,000 m, 90 percent of the lithium was selectively extracted using patented ion exchange resins. The lithium-depleted geothermal fluid was reinjected into the subsurface.

9. What about geothermal energy?

While little is known about geothermal lithium, there has been much opposition over the years to the geothermal power plants needed for brine extraction.

In the 1960s, geothermal energy was thought to have no environmental impact. Today, we know that this is highly unlikely to happen, as **there is no transforming process capable of not affecting the surrounding environment, whether direct or not**. The impact of this type of energy is proportional to the scale of its use.

Among the first effects produced by a geothermal plant are the

chloride is usually the main component of all lithium-rich sources, equipment must be corrosion-resistant. Regardless of the technology chosen, the long-term performance of the active materials responsible for selective lithium capture is critical in both the energy calculation and the environmental impact regarding disposal. When the data are reported, the average number of life cycles of active materials is less than ten (i.e., they should be changed after a few months).

drilling (intended for exploration or production wells) and the associated work (200-500 sq. m. allocated to the drilling area, which in the case of an average plant becomes 1,200-1,300 sq. m. against a depth of 2 km), as well as the construction of the utilization plant.

The next step after drilling is the installation of pipelines for the transport of geothermal fluids, which has a certain impact on the landscape. Environmental problems can also arise during the installation phase, since the heat transfer fluid (steam or hot water) contains substances such as carbon dioxide, hydrogen sulphide (which has an impact on air pollution), small amounts of gases and substances in solution, the concentration of which generally increases with increasing temperature, and waste water, which is returned to the environment at a higher temperature and is in fact a potential pollutant.

Another direct effect of the installation of the geothermal plant may be the occurrence of subsidence phenomena in the extraction area³⁴.

Subsidence is the process that corresponds to a slow lowering of the ground (in the order of mm/year to cm/year), which is usually assessed over the long term and must be monitored to avoid damage to both the plant and neighboring buildings.

Re-injection of geothermal brines poses a high seismic risk, especially in the case of deep mining, as was the case in late 2020 near Strasbourg, where the French company Fornoche was forced to permanently halt its geothermal project and shut down its Reichstett-Vendenheim plant following a series of earthquakes that began in October. Investigations by the Lower Rhine Prefecture concluded that the wells had been drilled too deep (5,000 meters) and that large volumes of water had been reinjected at very high

34 Subsidence is the process that corresponds to a slow lowering of the ground (on the order of mm/year to cm/year) and is usually appreciated over the long term and must be monitored to avoid damage to both the plant and neighboring buildings. Information taken from <https://www.teknoring.com/news/energie-rinnovabili/geotermia-e-ambiente-gli-impatti-principali-di-un-impianto/>

pressure, triggering a series of seismic reactions.³⁵ And this is by no means an isolated case: this technique has already raised fears, particularly after incidents in Germany and Switzerland, where water injected under high pressure 5 km underground caused several mini-earthquakes in the Basel region in 2006 and another of magnitude 3.6 in St. Gallen seven years later..

10. Geothermal Lithium.

The situation in Lazio region.

In summary, the question of mining sovereignty over lithium is being raised in Europe because it is currently a key raw material for the energy transition. In the absence of large deposits, funds are being allocated to research into alternative forms of extraction from geothermal brines. However, current DLE extraction technologies are all in a preliminary and experimental stage. This means that although successful results have been achieved, they have been on a small scale, and therefore there is no effective method of production on an industrial scale³⁶. In any case, mining companies are moving forward with concessions, as we will see later.

However, we saw that it is more an economic rather than ecological issue, because its application will cause many environmental effects, from pollution to water consumption, from land desertification to seismic effects³⁷.

35 Although this project was closed in December 2020, related earthquake tremors occurred at least until the end of June the following year.

36 Despite the fact that research is focused on experimenting with new techniques, which are still in their infancy - the quantities extracted to date are minimal - and that European deposits are in any case small, the current European policy of sovereignty is mainly aimed at establishing international diplomatic and economic relations, both at the level of extraction and refining, in line with an imperialist rather than an autarkic policy.

37 It is no coincidence that the concessions are located near lakes and that geothermal energy is only found in volcanic areas, which are subject to earthquakes.

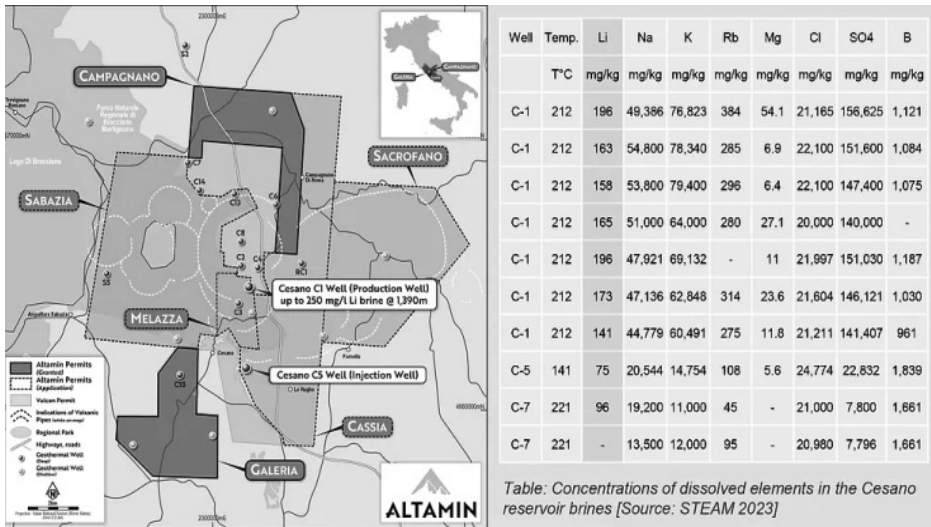
In addition, it should not be forgotten that the exploitation of existing plants does not mean that the infrastructure already present on the territory is adequate: an industrial lithium extraction plant would require the implementation of energy and transport infrastructure and, depending on the chosen method, the creation of an associated industry related to necessary components (membranes, resins, chemical solvents), production and disposal factories, in addition to the **probable further militarization** of areas considered of strategic importance.

To date, nine research permits for the extraction of lithium from geothermal brines have been issued on Italian territory. They have all been approved by the Lazio region and are distributed in two main areas (one in the Viterbo area, near Lake Bolsena, and the other north of Rome, around Lake Bracciano - areas that are already heavily militarized). A tenth, also near Lake Bolsena, appears to have been cancelled because it is incompatible with a concession already granted for a geothermal power plant.³⁸

This region, which stretches from southern Tuscany to Campania,

³⁸ This is a project that is currently awaiting an environmental impact assessment submitted by Latera srl, to be carried out in the municipalities of Latera and Valentano. (Question for answer in committee 5-12030 presented by TERROSI Alessandra text of Wednesday, August 2, 2017, session no. 847): “In 1993, Enel was authorized to build and operate a 45-megawatt geothermal power plant in the municipality of Latera (Viterbo); the activity started in June 1999 and was stopped shortly thereafter. The non-condensable gases, rich in hydrogen sulphide, which were no longer reinjected into the ground but vented into the air, as had been planned during the construction phase, were the cause of the damage suffered by the inhabitants of Latera and the surrounding municipalities, as evidenced by the many letters sent by the mayors of the area. Enel spa, the company that held the mining concession at the time, decided to shut down the plant and abandon it (...) ... in 2007, Enel Produzione spa, to which the mining rights had been transferred in 2005, is said to have submitted to the same Municipality of Latera a request for the closure of the geothermal wells and the consequent decommissioning of the installations, in addition to the restoration of the sites; in 2011, Enel Green Power spa, to which the mining rights had been transferred in 2009, requested the temporal adjustment of the mining concession called “Valentano” until the year 2024 (...) Latera Sviluppo has submitted a request to the Ministry of Economic Development for the construction of a geothermal pilot plant in the part of the concession ceded by EGP, which has been accepted with reservations due to the saturation of the available megawatts for this type of plant; the province of Viterbo is currently potentially affected by two geothermal pilot projects and three projects with regional authorization (!!!)”.

is - geologically speaking - part of the Roman Magmatic Province and is characterized by geological formations derived from magmatic activity of igneous bodies located deep underground, which are the main cause of geothermal manifestations (and the consequent interest of aspiring lithium extractors in geothermal energy).



In the early 1900s, Enel had drilled geothermal wells in this volcanic region, but it was not until 1975 that it discovered the high temperature of the geothermal fluids, which seemed favorable for energy production, and the high salinity rates with the presence of lithium.

But at that time, “geothermal plants with very salty water were generally abandoned because the high salinity caused problems for the plants and the separation systems”, according to Andrea Dini of the CNR; and so, faced with the impossibility of exploiting geothermal energy, Enel decided to leave, leaving the Cesano site unused.³⁹

³⁹ A small curiosity: in the 1970s, after the energy crises caused by the oil shocks, Italy, like other countries totally dependent on OPEC for oil supplies, focused its research on finding other sources of energy (solar, nuclear...): while electric mobility for motor vehicles was then considered a “futuristic technological problem”, finding

Fifty years later, the data collected by Enel on the composition of these geothermal brines are being studied with interest, as the lithium concentrations in the brines of Lazio are considered to be among the highest recorded in geothermal fluids in the world.

And so the race for domestic “white gold” began: between 2021 and 2023, the nine research permits mentioned above were granted, covering a total area of more than 25,000 hectares, spread over a strip of land covering about 100,000 hectares.

Most of these⁴⁰ were granted to Energia Minerals, which, as noted, is a wholly owned subsidiary of Australia’s Altamin.

Altamin commissions the independent company **Steam Srl** (Pisa, Lungarno Mediceo 40; Via Ponte a Piglieri 8) and the UK company **Watercycle Technologies Ltd.** to evaluate the brines.

The remaining three projects have been awarded to **Vulcan Energy**⁴¹ (another Australian company that recently signed a binding agreement to supply Stellantis, Renault and Volkswagen with up to 99 thousand tons of lithium hydroxide starting in 2026) for the aforementioned Cesano site, and to the ever-present Enel Green Power⁴².

As it happens, there is already a signed agreement between the two to share the rich spoils, or, as they put it (as stated on the website of Enel Green Power):

“A wide-ranging agreement focused on geothermal lithium research, enhancing the development opportunities offered by the

alternatives for electricity production seemed more likely. The geothermal hypothesis, in spite of the promising volcanic nature of the peninsula, went through a long period of stalemate due to the conflict of interests between the state companies Eni, qualified and competent, by analogy with hydrocarbons, in geothermal research, and Enel, monopolist since ‘62 of electricity production from any source (but not of its research), cf. F. Ippolito, *Politica dell’Energia*, Editori Riuniti 1977.

40 Specifically, there are six projects: Ferento, Sabazia, Galeria, Cassia, Campagnano and Sacrofano.

41 Vulcan Energy Resources has submitted a mining project named Zero Carbon Lithium for which it has applied for 2.25 billion euros in funding from the European Investment Bank and currently has five licenses for geothermal lithium exploration in Europe’s largest basin along the Upper Rhine Valley in Germany.

42 Enel Green Power has obtained permits for the Laertina and Marta projects (north of Viterbo) for a total exploration area of more than 6,000 hectares.

‘Cesano’ license, on the outskirts of Rome. The agreement signed by Enel Green Power and Vulcan Energy brings together their respective expertise in geothermal energy and lithium mining to develop joint initiatives, in the Lazio area and beyond.

The collaboration involves a step-by-step approach which, in an initial exploratory study phase, will consist of assessing the potential of Vulcan’s “Cesano” license, a site covering an area of 11.5 km² located a few kilometers from Rome. The agreement, based on the synergy between Vulcan’s know-how and the industrial experience of Enel Green Power - a world leader in geothermal energy with power plants in Italy, Chile and the United States - aims to “explore the prospects for further development of geothermal lithium, starting with the area in question, but not excluding other collaborations in Italy and abroad”.

Apparently, the research has yielded promising results, so much so that the area is considered *“a real gold mine in the Lazio subsoil”*.

The Lazio region, for its part, has given all nine projects the go-ahead to proceed without an environmental impact assessment (since none would be required) with Phase 1, which consists of studying data from geothermal wells drilled in the past, surface geological surveys and laboratory analysis of gas, fluid and rock samples taken at the site.

Everything is in order: in October 2022, the Lazio Regional Council approved a modification of the Environmental Impact Assessment procedures to comply with the relevant provisions contained in the NRRP and Law No. 91/2022 (converting Decree-Law No. 50/2022 on *“Urgent measures regarding national energy policy, business productivity and investment attraction, as well as social policy and the Ukrainian crisis”*), introducing measures to simplify and accelerate procedures.

The National Recovery and Resilience Plan, approved in 2021 under the impetus of the 2020 European plan *“Next Generation EU”*,

aims at the post-Covid 19 economic recovery through investments in ecological transition, digital transformation, infrastructure, research, etc. With 59.46 billion euros⁴³, the “green revolution” is at the heart of the entire program and receives the largest amount of funding.

It is therefore not surprising that there is a race for Lazio’s white gold: In 2022 alone, its price will increase by 495.9% to reach a value of \$47,500 per ton.

11. The climate crisis as a solution to the crisis of capitalism

As we have seen, **the history of exploitation of energy resources is inextricably linked to the history and development of capitalism and industrialization.** It could not be otherwise: the accumulation of capital has always had to optimize production through the introduction of machines, which in turn require exponential amounts of energy and raw materials, in order to produce other consumption machines, both civilian and military, which require even more energy...

It is interesting to note that the public debate on **climate change**, although today it is hardly a disputed reality, has, over the decades, gone through phases of alarmism or, on the other hand, invisibility, which have much more in common with the expansion and contraction phases of the energy market than with real concern for the future of environment. Let us try to illustrate this with practical examples.

First of all, it does not seem unrealistic to assume that the envi-

⁴³ It should be noted that at the very end of the budget allocation plan is the “health” item (15.63 billion), which is also to be spent on “making facilities more modern, digital and inclusive” (see - telemedicine), proving what the real interests are and how little they have to do with people’s health care.

ronmentally devastating effects of the industrial production model were well known, at least on an empirical level, even in its early days. The seizure of collectively used land, the massive deforestation to make way for monocultures and industrial complexes, the unbreathable air, and the urbanization of unhealthy cities would have affected the perceived quality of the environment no less dramatically, we hypothesize, than the social degradation that the new production paradigm inflicted on the living conditions of the exploited labor force. At the time, however, it was certainly not in the interest of the '*magnificent and progressive fate*' of capitalism to question the overall impact of the machine that had been set in motion as long as the reserves of fossil fuels (coal, then oil and gas) were considered inexhaustible and, above all, profitable.⁴⁴

In this respect, the concept of an available **reserve** of a material or energy source does not essentially refer to an estimate of the size of the deposits or a quantification of their contents, as one might imagine, for example, when one hears of their possible **depletion**.

Reserve, on the other hand, **is a strictly economic concept**, and therefore one that varies over time depending on two main factors: **the existing technology capable of extracting and processing the natural resource, and the market capable of assigning value and economic convenience to the extraction and processing activity**.⁴⁵ The concept of reserve thus defines the available amount of a natural resource, as determined by exploration and studies, that can be economically exploited by humans using existing technologies. Thus, only a portion of the available natural resources is defined as a reserve, and in addition to the technological aspect, there are other variables that then contribute to the delineation of what could be the potential reserves of the future, Their publicity or secrecy is a delicate matter, since the

44 The discovery of the global warming phenomenon dates back to the end of the 19th century: in fact, it was at this time that Nobel Prize winner in chemistry Svante Arrhenius first illustrated the theory that stated that the presence of CO₂ in the atmosphere could affect the climate by causing a change in average temperature values.

45 Definition taken from <https://www.ecoage.it/definizione-di-riserva.htm>

creation or not of a sense of scarcity or, conversely, of abundance of a given reserve has a significant impact on the evolution of prices in the markets (in other words, the reserve/consumption pair can be combined with the supply/demand pair, and, as we know, in the financial markets these pairs do not necessarily correspond in the real economy).

One might be inclined to speculate, in addition to these factors of influence, that public debate fed by the media (in turn oriented by political agenda) also participates in the organization of interpretations of reality in a functional way in relation to the dominant political-economic objectives. The above-mentioned oil shock of the 1970s confronted the Western world with the proof of the fragility of its economic systems totally dependent on oil. In Italy, for example, this awareness was accompanied by a public discourse on the energy crisis and the strategic need for a transition, which in those years took the form of pro-nuclear propaganda (in 1966, moreover, Italy was already the world's third largest producer of electronuclear energy⁴⁶).

The environmental disasters of Seveso (1976), Three Miles Island (1979), and then Chernobyl (1986) helped to awaken a kind of ecological consciousness in public opinion. On the frontline of the struggle, the pylons toppled, while on the frontline of retrieval⁴⁷,

⁴⁶ Perhaps not everyone knows that the history of nuclear power in Italy began in the 1950s, when the country's capitalism realized that no economic boom would be possible without an autonomous and stable source of energy: In 1959 the first research reactor was built at Ispra (Varese), while in 1963 the first power plant was built at Latina (Borgo Sabotino), eight months later the second at Sessa Aurunca, near Caserta (Garigliano), and less than a year later the plant at Trino, in the province of Vercelli, at the time of its commissioning the most powerful in the world.

The fourth plant, in Caorso (Piacenza), would have to wait until 1978, when it was connected to the distribution grid for the first time. Finally, in 1982, the Montalto di Castro plant (Viterbo), which never became operational, was added to the grid. As a result of the debate on nationalization of nuclear power, Enel was founded. Source: <https://lespresso.it/c/attualita/2022/4/11/litalia-e-il-nucleare-dal-primi-impianto-ai-referendum-storia-di-un-rapporto-complicato/12600>

⁴⁷ Not sure about the translation. The Italian word "recupero", in anarchist texts, usually refers to the ability – of the State, propaganda, mainstream media, capitalism, leftist parties etc. – to depotentiate the subversive contents of a struggle, render them harmless by introjecting the aspects deemed most acceptable and making them fun-

the Green Party was founded (as an emanation of the Radicals - the first electoral appearance of the “laughing sun” - a symbol borrowed from the Danish anti-nuclear struggle - was in 1985 regional elections, but anti-nuclear and proto-environmentalist demonstrations had already begun in ‘77).

In those years, therefore, it was already clear that, in order to overcome the crisis of post-boom capitalism, an energy transition (although it would be more correct to call it an **addition**) was necessary, which in fact meant a **diversification of sources of supply, a stratification of possibilities to feed the industry in its perpetual growth**, in order not to depend exclusively on imports of a fuel as fundamental as it is linked to political stability of the producing countries.

But let us leave aside for a moment the undisputed king of raw materials for transport and the chemical industry since the 1900s, oil, and let us stay with **electricity, the undisputed protagonist of today’s ecological transition**.

The dream of the atom in Italy was shattered by the 1986 referendum that sanctioned the end of the nuclear adventure “made in Italy”. This was confirmed in 2011 after the Fukushima disaster, but the problem remained. Electricity production, initially based exclusively on coal, the raw material of the industrial revolution, was soon diversified with the introduction of geothermal (the Larderello plant dates back to 1905) and hydroelectric power plants. The construction of the latter, however, came to an abrupt halt after another disaster, the collapse of the Vajont dam in 1963. In the 1970s, more on the wave of massacres and fear of irreversible accidents than out of a genuine environmental consciousness, people began to talk about renewable energies, while Western industries began to produce solar panels (thermal and photovoltaic)

tionally part of democratic opposition concertation. For example, one criticism that has been raised against this pamphlet has been that it “lends itself to retrieval” because it is deemed to focus too much on the environmental effects of extractivism-one of the typical grounds of retrieval-and too little on a radical critique of the system as a whole.

and wind turbines on a large scale.

At present, in Italy, 65% of electricity production comes from thermoelectric plants, which are designed to be fueled by several fossil fuels (mainly natural gas - considered a source whose importation is less linked to the geopolitical uncertainties of the producing countries) and biomass incinerators, and 35 percent comes from so-called renewable energies (15 percent from hydroelectric plants - in the Alpine and Apennine areas -, 8 percent from photovoltaic - second in Europe -, 6 percent from wind - mainly in the south and islands, and 1.9% from geothermal energy in Tuscany). Despite the fact that domestic production thus distributed is already estimated to be able to cover electricity needs alone, Italy is still **the third largest electricity importer in the world**, buying substantial shares of the surplus from French and Swiss nuclear production, especially at night.

What, then, do ecological claims have to do with a seemingly much more convenient electric transition? Concerns about the irreversible consequences of the use of fossil fuels (emission of greenhouse gases, global warming, melting glaciers, rising waters, etc.) seem to have arisen at the time when the expansion of capitalism reached such heights that industrialization of the entire planet made unsustainable for the resilience of the ecosystem-world a rate of energy consumption that was also increasingly globalized, more precisely during the 1990s.

The historical fact that is most emblematic of the new direction that capitalism wanted to take, as well as symptomatic of the ineffectiveness of the instrument of global diplomacy in dealing with the issue, is the ratification of the famous Kyoto Protocol in 1997, as a result of UN's interest in the issue of climate change that began with the conference in Rio de Janeiro (the 1992 Earth Summit).

The goal was for the advanced industrialized countries to reduce their greenhouse gas emissions by 8.65 percent from 1990 levels by 2012. The United States (responsible for 22.59 percent of emis-

sions in '90) and Australia never joined the protocol, while other countries were never required to reduce anything because they were considered "developing," such as India and China. While this fact may make us smile bitterly when we consider that China alone now produces more than one-third of global emissions, surpassing the next largest emitters - the US, EU, India and Russia - combined (and is not expected to peak until 2030), it also makes us consider a basic truth: industrial development cannot afford to care about climate change (or in other words, **being the cause of the problem, it cannot be part of its solution**).

If environmentalism is now so widely embraced by governments and corporations (and it is noteworthy that it is only in the last decade that public debate has shifted to the concept of a **climate crisis**), it is in part because the catastrophic effects of global warming are so obvious as to be undeniable, and to the fact that social activism has stressed the importance of informing public opinion and act to achieve a desperately needed change of course.

But not only that: **greenwashing, it is now clear to everyone, is a golden opportunity to revitalize a sick economic system**, a chance for industrial reconversion that would guarantee the perpetual accumulation on which capitalism feeds, even in its *recycled* version, more acceptable and desirable, despite the fact that this has very little to do with ecology. On the other hand, **extractivism (and its consequences) as the central axis of the electric transition provides the most glaring example of this contradiction: how can one ask a model of thought/production that relies on the theft of natural resources to feed its insatiable hunger for energy and raw materials to continue to expand in a more sustainable manner?**

The electrification of more and more aspects of production and reproduction in advanced capitalist societies is nothing more than a survival strategy of the dominant economic system, which in turn requires and enables **a new technical model of social orga-**

nization based on converging technologies and interconnected flows of digital data.

If all this is not clear enough, take the example of **Italvolt** (whose eloquent motto is “*Electrifying the future*”), a company that was born

a company born out of the ashes of Britishvolt’s bankruptcy at the behest of the founder himself, Lars Carlstrom. Its ambitious plan is to create “*Europe’s largest Gigafactory*”, or a plant dedicated to the production and storage of lithium-ion batteries for electric vehicles, the twelfth in the world, with 300,000 square meters that it would have obtained by taking over the former Olivetti factory in Scarmagno, Ivrea.

At the moment, the original plans to start production in 2025 seem to be suffering from a lack of funding (3.4 billion euros are needed), which the company is trying to find between private investment funds, joint ventures and public funds (NRRP and Auto Fund), and the Piedmont site has also been discarded due to the high costs of meeting environmental requirements. The company has therefore turned its attention to a place where these requirements are apparently of less value, namely Sicily, to Termini Imerese, in the Blutec area, where the Fiat plants used to be located. The application to obtain the land and participate in the competition should have been submitted in mid-September 2023, but in the meantime Italvolt has signed an agreement with Milan Polytechnic for the training and electrical conversion of the skills of Sicilian automotive workforce.⁴⁸

⁴⁸ For more information, see <https://www.economyup.it/automotive/italvolt-come-sara-la-piu-grande-gigafactory-italiana-indipendente/>

12. Conclusion.

Nothing to defend but our lives

Capitalism today is extractivist. Let us look, for example, at the brutal financial speculation that is its essence. The old capitalism is dead. [...] Now we see the true face of the system, the one already shown by colonialism in the Third World. What is new is that it has now been revealed in the North as well.

Raul Zibechi, interview

Returning to the original question, what is extractivism? As with almost any phenomenon of this magnitude, it seems reductive to limit it to its historical and economic aspects. It is perhaps first and foremost **a system of thought, a paradigm that embraces certain value horizons.**

Accordingly to the capitalist model, of which, as we have seen, it is a necessary condition, the **extractivist society** finds its legitimacy in the idea that **there is a center and a periphery**, and that the latter is to be considered **expendable** in order to ensure the progress and prosperity of the former. **It is a society ordered around the model of accumulation by robbery**, a model that faithfully reproduces the global balances of political-economic power and subalternity. It's an exploitative system that colonizes the periphery and, when necessary, uses repressive strategies typical of a **state of emergency** to crush opposition: militarization of territories, red zones, economic sanctions, increased penalties, special laws, assassinations⁴⁹ etc.

But it is not only that. As a paradigm, it is a concept that we find used today, perhaps sometimes inappropriately, on the most diverse occasions. In a broad sense, it could be defined as **the process by which valuable assets are extracted from their**

⁴⁹ This conceptualization is found in R. Zibechi, *The New Gold Rush*.

original context in order to enrich oneself.

So today, beyond actual *mining*, we are talking about cryptocurrency mining, where mines are places crammed with servers that require a large and constant flux of electricity.⁵⁰

In addition to metals and minerals, intensive agriculture (as well as livestock farming) also causes deforestation, degradation, desertification and impoverishment of vast tracts of land, as well as the displacement of people who live there, for the sole benefit of a handful of multinational corporations. Here in Italy, it is a term that has gained some importance in the struggles against large projects, from Tav, to Tap, to Mose⁵¹...

All this is part of another pillar of the paradigm, which is **the partitioning of space according to its function**, from its usefulness in terms of profit, according to the interests at stake. So one area becomes commercial, another becomes residential, another becomes a logistics hub, and yet another becomes a technology hub... Thus, depending on the market analysis, one area may be better developed as a tourist destination, another may be more profitable if it is turned into a toxic waste dump, and fields of olive and carob trees, as well as inaccessible mountains, may give way to the cultivation of solar panels or wind turbines...

With regard to the virtuality that the digital age imposes, given the enormous value that this new form of commodity has acquired

⁵⁰ One of the main countries where bitcoin mining takes place, Kazakhstan, saw a huge exodus of miners from China in 2021 following the latter's ban on mining; a few months later, the Nur-Sultan government was talking about new nuclear power plants to meet a demand that could no longer be met with coal and oil alone, nor with gas imported from Russia. In early 2022, protests erupted in the country over rising fuel prices, which were bloodily suppressed by Russian troops, who also imposed an Internet shutdown and intermittent power cuts.

⁵¹ Indeed, while much is being said about mining, less attention is being paid to the major interconnected infrastructure works that will be increasingly necessary for the movement of goods, raw materials and energy (see, in addition to those already mentioned, the MAT high-voltage power line, the IIRSA project in Latin America, the Thyraenian Link in Italy...).

red, today we speak of **data extractivism**, that is to say of those analytical tools with which our hyper-connected electronic devices rob us of the information about us in order to optimize a model of social organization that revolves around profit and control.

The asymmetrical relations on which the extractivist paradigm is based (center-periphery, master-exploited, civilization-nature) are, in fact, those power relations that characterize the capitalist existence as we know it as a whole, which is why we consider it to be an important aspect to take into account, but **not the only one**, in the struggle against domination.

At this point, we could try a new definition of extractivism, pointing to it as that **model of exploitation that makes us understand the whole of existence as something passive from which to extract profit** (whether it be from databases, territories or people), **creating asymmetrical power relations that impoverish the place of extraction in order to generate wealth elsewhere, as a function of growth and capital accumulation.**

In this sense, we do not want to claim that the only way to oppose extractivism is through so-called “zones à défendre”: it would be ridiculous to consider our anthropized and atomized habitat or our techno-dependent society as the bastion of a different way of life to be preserved, on the same level with an indigenous community struggling for its own survival. Although there are undoubtedly natural places that must be protected from the **irreversible** consequences of capitalist predation, and although the center-periphery dynamic is clearly evident here as well, we are still inhabitants of that “first world” from which, in our opinion, there is little to save.

However, identifying the fundamental mechanisms that make the megamachine⁵² work, and one of them is undoubtedly extractivi-

⁵² On the concept of the mega-machine for Lewis Mumford: “*Social mega-machines: this is how large hierarchical organizations that use masses of human beings*

sm, opposing this or that project, finding out who is responsible for each of its phases and what interests are at stake, can make us more aware and incisive in developing and experimenting with strategies to block these mechanisms...with the aim of destroying the megamachine itself.

After all, understanding its dynamics, simplifying its complexity, can undermine that aura of invincible *moloch*, because while it is true that power is also a relational matter, and that the economy is now largely immaterial, the **empire of technique has a vital need for an interdependent network of more than concrete supports**: from the training and collaboration of technicians, to the transport infrastructure of energy, communications and logistics, down to the lymphatic essence of cables and the tiniest chips. That is why we are so interested in what the dominion considers strategic, for its economy, for its military supremacy, for the ongoing social transformation to which it has given the name of digitalization: **understanding what its basic needs are and how it provides them is a good starting point for those who yearn to pull the plug.**

We will not stand by as states around the world race to get their hands on the materials that are the basic building blocks of the new high-tech prison they are building around us, because we can still imagine a radically different world that can only rise from the ruins of this one.

as components or servant units have been defined. [...] Financial capitalism is a mega-machine that has been developed in recent decades to maximize and accumulate, in the form of capital and power together, the value that can be extracted from as many people as possible, as well as from ecosystems. The extraction of value tends to encompass every moment and aspect of each other's existence, from birth to death or extinction."

ECOLOGICAL TRANSITION AND DIGITALIZATION: TWO SIDES OF THE SAME COIN

As anarchists, we should refuse to reduce the analysis of domination to the Marxist concept of capitalism, understood as the stage of historical development of production determined by the material productive forces, and then as the set of these relations that constitute the economic structure of contemporary society.

The most frequently developed argument is that technique is simply at the service of capital and produces the effects we know only because it is integrated into capitalism. But if techniques make it possible for capital to better control the labor process, then technical development should increase the power and security of capitalism, even though it is clear that for the last half century classical capitalism has lost all defiance and weakened because of techniques. Everything is based on the belief that nothing has changed in a century and a half, that technique is the same in 1848 and in 1975, that capitalism has not changed. The principle is that techniques have not changed the conditions under which capital operates as Marx established them. "Capitalism is capitalism," so it is necessary for the technique to remain subordinate and within Marx's framework of analysis. Marx's analyses are correct for the facts of his time or a little later. The error lies in pretending that we are still at that point. Technique creates the means of production that separates the rich and the poor more than ever before, that makes the divisions of society and the human world caduceus according to the old patterns. We must always remember that TECHNIQUE is always only a means of power.

The method of production of material living conditions, in general, the social, political and spiritual process of life, is not the only factor influencing its course. Several elements come into play, and one of them, different from crisis to crisis, becomes crucial in the process of renewal of domination in a given historical context. Techniques are currently giving a different form to both scienti-

fic progress and political function. A certain system of production (that is, the economy) modifies certain relations and transforms the market, and these transformations cannot be denied; what produces value today is no longer human labor, but scientific invention and technical innovation. Therefore, Marx's analysis, according to which the entire economic whole exists thanks to the surplus value produced by the waged labor of the worker, can no longer be applied. The industrial system is a closed world that develops in a linear and repetitive way. The technical system is necessarily open and evolves in a multipurpose and non-repetitive way. Technology, known for its aspect of automation, chemization, energetic economy, cyberization, information technology, biological invention and infinite production of atomic energy, no longer has much to do with the old industrial mechanization. It is power, made of instruments of power and caused by phenomena and structures of power, that is, of domination.

Let's start in 2020: the time of the so-called pandemic. **Lock-down:** industries mostly stopped, flights canceled, schools closed, little traffic on the roads... Dolphins along the coasts, deer in parks, hares in urban centers, toads and frogs that have died by the thousands on several Italian roads in recent years and that manage to reach lakes and ponds undisturbed to reproduce, jackals on the lawns of Tel Aviv, pumas in Santiago, Chile, sea lions stranded at the port of Rio de la Plata, coyotes and bears in California's inner cities, elephants and tigers roaming the streets of Sri Lanka, hundreds of macaques storming the presidential palace in New Delhi, and a Himalayan black bear entering a telecommunications office in Gangtok. ...animals taking back what was taken from them...someone mentioned dystopia, but I would have to say that dystopia is civilization, not the returning savage.

Why talk about it? Because the only possible alternative to the energy transition is the end of the production of a system that has become technical, from capitalist, and the society to which it gives form and life is technical. But let us proceed step by step: **Tech-**

nique, with computerization, has changed its nature, giving birth to a system, the **technical system**, that covers the entire living space: all sectors are interconnected, interacting, conditioning and being conditioned by others. Databases, the processing of huge flows of information, instant communication networks: information technology allows the unlimited growth of economic and administrative organizations. The process is irreversible. A society in which such a system exists can no longer recognize itself. It is therefore the dominant ideology of today. Technique is the will to power. It is not only knowledge and methods that allow one to do something in the best possible way, but it is also a mechanism that grinds everything down and thus substitutes itself for the real (social and human) environment, setting all meaning back to zero: simplifying and reducing it (derealization). If once it was the rhythm of nature that imposed its rhythms on us, today it is technique that does so.

Instead, we define **Technology** as the intellectual, cultural, and psychological equipment that enables the use of techniques and adapts human beings to them. Technology is a science of Technique, which consists in shaping a human group so that it becomes capable of receiving and making the best use of new machines, a new structure, a factory or an organization. This is a philosophical reflection. Technology is thus the dialogical construction of an imaginary, a way of seeing things, of thinking about them even before they are made concrete. But it is also a way of living, of reading and relating to reality. It is a discourse, a narrative with direct implications for social and political organization: it is ideology materialized.

Why distinguish these two words, which are not synonymous? Because words are important in a contemporaneity that tries to fill every meaning with emptiness.

Both the economy and the politics of a country, and especially its power, are based on the technical development achieved: this is demonstrated by arms race, in which the power of each side is ba-

sed on technical superiority, focusing on scientific-technological development, demonstrating once again how much technique is the measure of a nation's power today, and how politics and economics are in reality nothing more than "superstructures"

Wherever there is research and application of new means according to the criterion of effectiveness, there is technique. Anders points out how Technique has imposed itself to the point of assuming complete dominance, leading humanity to the most extreme results, leading it to administer "*the production of our own destruction*". The real danger lies in looking to Technique to remedy Technique itself, in making Technique responsible for the problems it creates. We cannot think of reappropriating the means of production, as the Marxists argued, in order to resolve our alienation: the self-management of the factories contemplates only the management of our misery. However, it would not be possible to go back or return to the past: history brings with it two centuries of capitalism and technical absolutism. "*We will not get anywhere without breaking with the concept of revolution as the reappropriation of the existing apparatus of production, without admitting that human emancipation passes through the destruction of the industrial system*".

And here we come to the Ecological Transition, whose key should be the Energy Transition: that is, a technical solution to a problem created by technique.

Ecological crisis and environmental degradation cease to be limits to capital accumulation and instead become new opportunities for profit and investment, in short, new spaces and engines of accumulation. On the other hand, this field of ecological valorization assumes a particularly central role in the desperate response to an unprecedented systemic crisis, intensified by the Covid-19 pandemic. For the technical imperative is "what can be done, must be done".

Without rare earths, there would be no ecological or digital

transition: their versatility makes them essential and their demand will grow exponentially in the coming years. (Iren Group)

Most **definitions** of the neologism Ecological Transition define it as the transition from an unsustainable production system to one that focuses instead on sustainability. In a world where nothing makes sense anymore, these words seem catchy and compelling. So much so that deceived people believe that carbon-footprint energy sources are more polluting than so-called “renewable” and nuclear energy sources. Only those who have the will to tear open the veil of Maya, as Schopenhauer put it, will be able to see the reality of things. Namely, that this technological process will be used to continue to produce zero emissions at a relentless pace, ecologically useless things for a meaningless green life; to continue to dismember with clean technologies the guts of this Earth to which we belong along with billions of other living species; to continue to accumulate profits by making the dispossessed pay the steep, high price for all this low-polluting plunder; to continue to maintain the deep divide between the rich, who have power, and the poor, who will continue to be exploited, but in a sustainable way, of course. To allow technologically advanced countries to reduce their dependence on hydrocarbons by “cleaning up their emissions” at the expense of the ecosystems of “under developed” countries. This ecological reconversion is an inextricable marriage of blood and power between Capitalism and Technology, which is necessary if we are to proceed at a rapid pace without questioning the system that this macabre partnership has created.

The useful idiots who continue to scream about the catastrophe of a coal-based manufacturing world, without questioning manufacturing itself, fail to note that the “emergency” unleashed by Covid-19 (March 11, 2020, the World Health Organization-WHO-issues a public declaration of a pandemic) was a springboard for the spread of Green Recovery, a project that denounces the overcoming of the negative economic consequences following state management of the pandemic. Technological engagement in the “green transi-

tion” and its security function is an imperative for the expansion of the mining frontier, industrialization and securing markets. This is where the most relevant international players have deployed several instruments - China’s 11th to 14th Five-Year Plans, the EU’s Next Generation Funds (The Plan Europe’s Recovery for the Synergy between Green Economy and Digitalization, laying the groundwork for a dual transition, one green, the other digital), the REPowerEU, the Inflation Reduction Act, the Critical Raw Materials Act, the Green Deal Industrial Plan, the Net Zero Industry Act, and the Global Gateway, among others - to gain hegemony on the international stage with the aim of extracting minerals and producing and selling technological equipment, to achieve hegemony in the international arena.

The New Industrial Strategy for Europe 2021 confirms how the dual ecological and digital transition will affect the economy, society and industry in every aspect, showing how they are two sides of the same coin. The most sustainable programs are those that are the most efficient (understood as being able to respond to an objective) and effective (i.e. achieving the desired effect), and wherever there is research and application of new means according to the criterion of effectiveness, it can be said that there is Technique.

The rhetoric of sustainability encourages the **digital transition**, defined as the activity of rethinking processes using digital technologies with the aim of making them more efficient, easier to collect in terms of quantity and quality, and more accessible and representative. Its energy-intensive nature is made illusory and ephemeral by its immanent immateriality, but much more than tangible in terms of exploiting the living. Behind the opportunities offered by digital technologies lie highly complex infrastructures that consume enormous amounts of electricity, with a largely underestimated environmental impact¹. Data traffic is exploding with

¹ Literature estimates range from 5 to 10 percent of global electricity consumption. “There are no standards for tracking energy consumption in software,” he continues. “Estimates are only general. No one really knows exactly what digital consumption is, from the individual computers we use at home to the data centers from which

the growth of the Internet of Things and machine-to-machine connections, where digital devices talk to each other remotely. It is an ever-expanding “dematerialized universe” fueled by data - created, used, requested, relentlessly demanded every day - the heart of the digital market, based precisely on the continuous creation of new data produced by users themselves.

They require energy to power the Internet and the large datacenters where computing is done and digital *Cloud* services produced.

The ecological transition will then be the “**battleground**” in the coming period, in a neoliberal vision in which the actions of those least responsible for ecological destruction will be blamed, moralizing to distract from the real, never named, but very specific responsibilities.

Terna is not only responsible for the environmental destruction and pollution that follows the construction of the power lines and the associated substations, as a leading actor in the process of electrification of the world as a consequence of the unhealthy idea of progress that this deadly system propagates, but it is also the promoter of that “green revolution” caused by the recent need to restructure capitalism, which will only bring further exploitation of ecosystems and people. Exposing its responsibility is one of the goals of our action.

Taking responsibility for fire barricades and throwing stones
against Terna, Rome, Nov. 2.

The ecological transition is thus the fourth response to one of the crises of capital, if we consider the industrial revolutions as necessary steps increasingly oriented towards technology (steam engines; electricity, chemistry and the internal combustion engine; computers and robotics; cyber-physical systems). Extractivism,

all our digital services come. We only have vague ideas.” The Web, amid high-tech gadgets, servers and algorithms, comes full circle to the top of the list when it comes to CO₂. It would produce about 1.850 billion cubic tons of it per year, putting the digital country in fourth place, after China, the United States and, according to estimates, India. Italy has the fourth supercomputer in the world and the second in Europe, located in Bologna at Tecnopolo.

like every other form of exploitation, is based on the paradigm of colonization: virtually every act of domination has been done to extract raw materials, whether grains, spices, metals, salt, human slaves, or other animals. The search for gold brought the Egyptian invasions, the Trojan War, or the war between Greece and Persia into more recent times. Iron became essential for the development of railroads, public works, urban construction and industrial plants. The first industrial revolution was a turning point: the iron-coal axis allowed power to remain monopolized by the states that could control it. Since the end of the Second World War, the cards have been reshuffled: oil, gas, nuclear energy and critical metals have become important, without marginalizing other essential raw materials.

The fast spread of electricity required huge quantities of copper; the demand came from the urbanization of cities and the electrification of manufacturing equipment. Mining companies look for these metals where they are found, which explains some military conquests of metal-rich regions (Congo, the Asian tin crescent, for example). Up to the present day, where oil and gas and electricity (largely produced from coal, oil and gas), various metals (especially the technological ones developed precisely during the First World War and especially during the Second World War), have conditioned world economic growth, trade and many wars...

The transition from the capitalist to the technical society is a qualitative leap, because if in the former case the individual was given a space outside the productive/industrial world without any interference in private life, in the technical society every sphere of life is colonized by technology itself, whose ultimate goal is not production and accumulation but the infinite evolution of technology. Technique thus becomes the living environment of man, outside of which nothing can exist, with the imperative: "Thou shalt have no other world but mine".

As one comrade well wrote: *"That the realization of the 'Society of machines' was a class question is not news to anyone. If anything, it is the consolidation of the technocracies (understood as "power*

*classes,” to use a term a comrade introduced a few months ago), of which this emptiness of meaning, this “technological eradication,” is both cause and effect, and of which nuclear power is the emblem.” Oh yes, because at the last COP28 (the annual UN-sponsored conference to discuss climate change) to implement **decarbonization**, there were plans to triple the availability of **nuclear power by 2050** (the distinction between civilian and military nuclear power is paper-thin). Japan is already at work: the JT-60SA experimental fusion reactor was inaugurated on December 1st, just 12 years after the Fukushima disaster. They keep telling the fairy tale of getting rid of coal and replacing it with renewables and nuclear, as if these forms are really sustainable, but it only adds forms of exploitation and pollution. The only sustainable option is to destroy them.*

CONTRIBUTION FOR TWO DAYS AGAINST EXTRACTIVISM IN BENCIVENGA SQUAT ROME¹

Introduction

This modest contribution will have some limitations. The invitation that reached me to participate with a paper in this initiative has obviously come late. This delay is due to the timing of my arrest and the organization of the two-day event. In short, time is short. Not to mention that these weeks, as you will understand, are definitely dense in many ways. In addition, the lack of materials to work and study is definitely another not insignificant limitation.

Therefore, I want to warn those who are going to read these poor lines to consider these objective limitations of mine. I do not know if these few and meager notes that I have taken these days will allow me to put on paper reflections that are well thought out and useful for the initiative. I will try, and while reading the points/topics sent to me, I was able to realize my lack of means, but at the same time they reconnect with some reflections that appeared in my paper published in issue 11 of "*I Giorni e Le Notti (The Days and Nights)*" magazine, "*Il mare tra utopia e potere (The Sea Between Utopia and Power)*". In a way, the themes touch on each other.

In conclusion, I would like to thank the comrades who worked on this two-day discussion and debate and, of course, for inviting me to participate.

For ease of reading and for my own work, I will address the issues in bullet points to be as concise and precise as possible.

I wish each and every one of you a good and fruitful discussion, work and a lot of practice.

¹ We publish this letter, which unfortunately reached us a few days too late for this event, as a valuable contribution to future discussions. We warmly thank Stecco for these words and renew all our solidarity with him. Daje forte!

Creating an imaginary through communication

Being imprisoned, even if you don't want to, means watching TV. This instrument of domination, behind its images, the editing of certain channels and programs, shows how the theme of the event is constantly present in the petty propaganda of the State and capital.

The first example, trivial but exemplary, is a Christmas advertisement that is exactly emblematic of how this unhealthy system works. These days, a famous presenter can be seen on TV, in a commercial, naturally throwing away the "old" smartphone and, uttering only the word "easy", inviting people to buy the new model on sale for the holidays.

We all know that behind every technological gadget there is a long supply chain and complex logistics. Therefore, capital must necessarily have a global outlook and outlet. There is no independent country on this front. We also know that in order to sell such sophisticated items at an affordable price to the masses, the item must be made both accessible and presentable, but above all it must be deemed "necessary". The role of the state, and not only of private individuals, is basically to make the life of the citizen a trap, since the use of these technological prostheses, for example, makes people's lives more difficult, considering that today many basic services in daily tasks are inseparable from them. This science of communication was well explained in the 1930s by Edward Bernays in his famous text "*Propaganda*". Today, these techniques are extremely effective and pervasive.

The other example - which is also emblematic for me - is the existence of a channel like Dmax, which is made in America but dubbed entirely in Italian.

This is also the essence of the extractivist mindset that we want

to observe here. It tickles the imagination of its target audience, the white, macho male with a tendency to use violence to gain dominance and control. The shows range from tuna fishing to gold panning, and in the Italian version, there are woodcutters from the northeast who use huge machines to clear, cut, and bark entire forests in a matter of hours, creating havoc and slaughtering animals. Everything is stimulated, both in the editing of the images and in the choice of music, in such a way as to evoke the masculine and classical vileness of the colonialist, conquering mentality, where the use of the brain is relegated to the control of the mechanical arm.

Dynamics that a fine mind had observed as social psychology that strengthens the masculine imagination in stretching its member, in erecting the penis.

It is precisely through the technology of communication, which has been transferred to the competition between States, that this stimulation of the senses is now present in a massive way. Every state society, regardless of the dominant culture and religion, creates a bond with its subjects by eradicating any concept, any custom, any relationship of daily practice and conception of life proper to communities that, when they had or still have a margin of autonomy, practiced a relationship between man and nature that aimed at respect and balance towards what surrounds and nourishes them. Having broken this balance and suppressed resistance, they move on to the homogenization of minds by creating the most effective forms of influence and manipulation. The important thing is to make people believe that this process of extraction - in the various spheres of life - is irreversible and desirable. A dynamic that is accentuated when new resistances are formed in defense of the land, one's autonomy, or for other reasons of social emancipation. So here is the creation of characters like Greta Thunberg, here are the sweet and encouraging words of Pope Francis on Sunday at the Angelus, here is the huge "repair" machine of the "green" world that creates the image of salvation, of the "happy island".

I would like to add another aspect. A few years ago, the magazine Limes, which deals with geopolitical analysis, created a school for young analysts. Perhaps someone will remember Dario Fabri, one of its main editors, who, with the outbreak of the war in Ukraine, was constantly invited by television news programs and various broadcasts to give lengthy analyses, obviously with an Atlanticist and patriotic slant. We know very well that the outbreak of war tends to create a certain collective psychology of fear and anxiety. His figure is therefore propaedeutic to a certain work on the masses, considered ignorant, who need an expert but reassuring, cynical, pragmatic but also solving voice, whose purpose is to cut off the thinking of the listener, who is made powerless because he is led to delegate and thus to think that it is his own state, his own rulers, who must defend and provide what is fundamental to “national interests”. And if this is the purpose, then the citizen demands that his own State has all the means to defend itself and to make its privileges prevail. To this end, a part of the acceptance is triggered that it is useful to have the territory gutted in the search for raw materials, useful to create defensive systems and to provide the energy to create them.

This is only one of the techniques, perhaps of a macroscopic nature, to create acceptance of a certain type of intervention by State and private companies in any considered territories.

Creating Collaboration

When I was under house arrest in the winter of 2020, during the lockdown, I watched a play by Marco Paolini called Ausmerzen² several times. “Aktion T4” was the name of the euthanasia project created by the Nazi Party to eliminate surplus, useless mouths. The actor’s oratorical skills not only highlight the tragedy itself, i.e. the murder of hundreds of thousands of “eaters-for-free,” those considered disposable: the “mentally ill,” the handicapped, the epileptics, the depressed, the gypsies, but he also succeeds, and

² It can be found on Youtube: <https://youtu.be/ijXOmEdRjvQ>

above all, in highlighting the regime's ability to extract two things from its subjects. The most gruesome is the acceptance of parents to spontaneously bring their sons and daughters, "sick" relatives, to the centers where they were to be treated. What interests us most, however, is the totally silent cooperation of a wide range of workers. From the bakers who baked bread, to the bus drivers, to the nurses and nuns who, with syringes - symbols of medical progress - injected serums that were supposed to be curative and instead brought death.

The worker who oiled the mechanism for good was the family doctor, because he was considered the person in whom most of the relatives placed their trust. Does that remind you of anything? I give this example because during the show Paolini read what was later called the "shopping list". In order to justify this silent slaughter - which continued even under the American occupation - and which prepared the ground for the later extermination camps, the Party asked the regime's technicians and bureaucrats to calculate how much butter, eggs, bread, pasta, vegetables, legumes, etc., is costing the healthy and "superior" population (*note: to maintain the "sick" one*) in terms of marks and kilocalories. Eliminating unnecessary mouths to feed means having more raw materials to meet the needs of the nation; all energy - including food - was needed for the expansion of the Third Reich. With this way of reasoning, even in the system in which we are immersed, we can go so far as to calculate scientifically -- hence "undeniably" -- the fact that people do not deserve to be alive or to have a decent life. And today we are in a very, very similar dynamic. We are told that these things belong to a dark age, that we should rightly remember the tragedies and violence, but never the causes and mechanisms.

Today we are lectured in a sweeter and sometimes homeopathic way about how we consume energy, what we eat, how we produce the "terrible" Co₂³. Everything is accounted for, centralized, and then spat in our faces as a moral and blackmailing reproach. If

3 I recommend that you read - with a critical view - the reflections that appeared in the most recent issue of the magazine L'Urlo della Terra (I don't remember the exact title or number).

you don't keep up with the imposed times and dictates, you are the victim of the pressure, you are considered retrograde, you are the symbol of the past that must be left behind because the future is "green". But the mechanisms of blackmail and morality are given special technological tools. And here are the new smart meters, sensors, handhelds, domotics, etc. All the way to "social credit" projects such as in the municipality of Fidenza. An inquisitorial-repressive dynamic, where those who are poor and have non-normal and "anti-social" behaviors risk ending up outside the social consortium, remaining excluded from so-called "rights". But the duties remain.

The energy decree, deregulation of the gas market and the fourth round of money for the NRRP are the obvious pushes of the national capital in a certain direction. It is inevitable that young people will be pushed towards the study of those subjects that are useful for the formation of minds and hands that will feed this machine. The indoctrination of the freshest and most fertile minds is under way, and school is the chief cog in this work. The need for wages, of course, creates the tendency to seek out those studies that will make it easier to enter the job market. In this way, the Andersian message about the "Promethean gaze" is deflected, obscured. But this erasure of ethical reason must be traced back to the creation and conception of the place called the laboratory. It was in the Enlightenment that this idea had its greatest momentum. The holistic view of man and his environment is stifled. I don't know how to get out of this trap of brainwashing, our criticism of war and technology, for example, within the universities, has produced bad results, and I wonder if the lever of ethical criticism - with which I fully agree - is the right one to shake these consciences.

Moreover, in the moral and blind prison of the laboratory, many have fallen who had certain definite ideas. In the book "*Italian Scientists in the First World War*"⁴ even our comrade, the chemist

4 Angelo Guerraggio, *La scienza in trincea. Gli scienziati italiani nella prima guerra mondiale*, Raffaello Cortina, 2015 (*Science in the Trenches. Italian Scientists in the First World War*)

Ettore Molinari, editor of the manual "*Health is in You*", got stuck in this two-sided monster that is the scientific approach to life. During the war he expressed his position, which was the same as that of most anarchists: defeatist, unpatriotic, following the motto "war on war". But at the same time he continued to work for private individuals in the study of new substances useful for the ongoing massacre. There is in him the split between the ideal of emancipation and the ability to choose to block one's passion, one's self-denial, towards what is one's intellectual work as a scientist. The ability to imagine beyond the blanket of the "neutrality" of discovery is lacking. Observe its effects and applications. There are too few deserters from the laboratories, and those who do are considered obscurantist traitors. The anti-militarist and pacifist position of the French mathematician Alexandre Grothendieck is perhaps more unique than rare.

Breaking down the concept of progress

Another aspect to consider, and one that deserves its own space, is the concept of progress. Even within anarchism, some of our good and well-known comrades have underestimated or ignored important aspects of this concept.

The blindness of positivism, the fascination with innovation in various branches of science, which in leaps and bounds brought about an epochal change called the Industrial Revolution, these and other important factors obscure a part of social criticism that should be taken into account. Perhaps one of the few who saw certain dangers was the anarchist geographer Elisée Reclus. There is not only the class question to take into account, and in my opinion a comrade like Petr Kropotkin-with his cultural and scientific background-created a certain kind of thinking and assumptions that we should at least reevaluate today. It was believed, and is still believed, that if knowledge and the means of production are in "our" hands, then certain technological drifts or uses will be

controlled or stopped. Some of the debates that have arisen, for example, in the weekly magazine *Umanità Nova*, on topics such as medically assisted procreation, genetic engineering, vaccines, etc., are disconnected from a broader reflection on the relationship between man and nature, between the autonomy of one's own health and the critique of the social roles of official medicine.

We find the same kind of deception in Renato Curcio's recent books on AI, computing, cybernetics, etc. and how they relate to the world of labor.

His books are certainly interesting as class investigations into the relationship between technologies and labor, with first-hand accounts of, for example, the entry into Industry 4.0, but in all his books the conclusions he arrives at - in my opinion trivial and not very profound - are the usual monotonous questions about the means of production that must be in the hands of the working class, or whatever we want to call it. Not a word about the relationship between the existence of these technologies and how they are produced, by whom and where, and with what effects. No reflection on man and nature and their relationship, no overview or how a whole range of technologies are a problem in themselves and not just who uses them or for what purposes. We are afraid to go all the way with a radical critique, perhaps in part because we know that it would touch us very deeply, for fear of losing privilege or comfort. One is afraid to say that in order to reduce certain disasters and injustices, one must "sacrifice" this model of life, which does not mean taking primitivist positions. In just a few decades, people have lost physical abilities, such as the ability to withstand fatigue, or mental abilities, such as the ability to memorize or calculate.

I think we should not be afraid to shake the imagination of those around us and make them believe that not everything will be golden, but at least that we are beginning to take a path that will put an end to certain disasters and poisons. Rolling back the consumerist, selfish culture that has been ingrained in us since childhood will require several ages, several revolutionary stages, and not just

a confrontation with the enemy in the strict sense of the word. The field of thought also needs its battles.

Go back to them with a dagger in your hand...⁵

Some time ago I saw an Icelandic documentary called “The Laxà Farmers”⁶, a struggle that took place in Iceland in the 1970s in defense of a river considered sacred by the people. A river rich in salmon and very pure water, which was a sure source of food during the most severe climatic periods. The Icelandic state wanted to build a dam, if I remember correctly, to produce electricity, even though the population was against it. When the dam was under construction, it was dynamited one night, causing it to collapse, and the river flowed again as it had originally. At the time it was not known who did it, the action remained anonymous, but the whole community claimed ownership, so it became “collective” because it was understood as a self-defensive attack. The moral barrier between the legal and the illegal gave way.

Two important things emerge from the documentary; the first is the strong bond of the community, which meant that the secret of who carried out the sabotage remained that way for decades. The second is that one person in an interview says that a minority of those people were positively influenced by the internationalist struggles of the time. Anti-colonial, resistance, liberation, armed and emancipatory struggles, these struggles had the power to reverberate even in the “peripheral” countries of the Laxà River. The sense of what was possible, of direct action against injustice, was

5 Here the quote is from the song “*Mille anni (A Thousand Years)*” by the punkhardcore band Ludd, about defending the earth, and it says, “*Go back to those who exploit your fellow beings and poison the earth, go back to them with a dagger in your hand*”.

6 It can be found on Vimeo at the link <https://vimeo.com/67135714>.

palpable and seeped into the minds. Even in the minds of those who had always lived peacefully, but who, faced with the abuse of the dam, felt the need to react, even by illegal means. Today, the common sense of certain facts has changed. Not only in Italy, the state propaganda has worked to destroy these imageries.

Today there is a retreat of practices precisely - but not only - because of this constant denigrating attack on liberation actions. The noose of morality over violence also harnesses those who have healthy outbursts of anger and the desire to give the boot to those who ruin our lives.

I think that today, since struggles against the construction sites of big projects are not always possible, and sometimes they are even harmful because they limit the horizon of the struggle (see Valsusa), perhaps the classic tactics used in Europe against certain projects should be reviewed. One cannot continue to insist on ways that give little satisfaction and too many risks, since we now get jail and measures even for minor acts. It would be appropriate to discuss how best to proceed in certain contexts and how to intervene in certain types of struggles. For example, some of the anarchist assumptions made around the struggle against the cruise missiles in Comiso in 1983 would be worth revisiting. Not because they are disagreeable, but perhaps they should be re-discussed and re-analyzed today.

I always like to remember the cover of the first issue of the anarchist newspaper "*Invece*", in which the person who drew it managed, with a very effective illustration, to show the faces of the exploited angry and determined to enter the house of the rich bourgeois, who, with his arthritic hands full of gold rings, is trying to resist the mob that, armed with various tools, is at his door threatening him with the just expropriation to which he is entitled. It is over, it must be over, the time of whistling streets, of colorful and dancing processions, or even worse, of an "opposition" on social media; it is time to do our part, to help rebuild those images that

give strength and determination, rightness in the search for those responsible. To return to them still with a dagger in our hand.

That night in Laxà, the roar of the dynamite brought an entire community together around a single fact of concrete liberation, but also a demonstration of strength and unity against the state or the multinational corporation of the day. I have given this simple example because it is more reflective of the local context. The examples mentioned in the Call Sheet, such as the Farc, the Mend or the Mapuche, presuppose that at least one has the space, the means, a community with which to liberate a piece of territory and defend it with the appropriate means. I think that today in Europe the conditions are not yet right, that a lot of work needs to be done to create the right combination of factors so that these experiences open up possibilities here as well. They certainly need to be discussed and disseminated here as well, but sometimes I wonder if it is right to articulate them in an analysis dedicated to these lands called Europe. In this sense, I would like to propose a constant comparison with some experiences in Greece that connect the movement between the struggles in the city and the experiences in the country-mountains. The ZADs or the Hambach Forest have merits, but I wonder if this is where our best energies should be invested. That would be a matter for thoughtful discussion.

What we can say for sure is that anarchist informality continues to contribute. From France to Germany, from Canada to the United States, we get good practical and analytical insights, useful pointers because the social contexts are more similar to our own and therefore more understandable. But we should not forget that in Italy mining or energy projects are often located in places where the community is fragmented, sparsely populated, where young people have already left, an aspect that also needs to be evaluated and observed. See, for example, the struggle in Beigua in Liguria, or the situation in Basilicata. In Piombino against the regasifier is already a different context, but I don't know if and how the comrades are acting from an anarchist and insurrectionary perspective.

The lessons of war

As for the links between science and war, the book I mentioned earlier about the role of Italian scientists is really a good historical reconstruction, in the early chapters, of how authoritarian cultures throughout history have used “progress,” “discovery,” for purposes of domination.

Today’s war in Ukraine shows us one thing in particular - certainly not new - but perhaps best kept in mind. This energy-consuming system is extremely delicate and indispensable. Whether it is for logistics, for the operation of laboratories, or whatever, touching this key (*that of energy, ed.*) gets any state into trouble. They cannot do without it, and the anonymous saboteurs in Russia, Belarus, Ukraine, in general, show us this criticality. In France they have found ways to blow out the lights of entire industrial zones, in Canada pipelines. There is no lack of examples. We just have to look for what we are interested in, and looking at war and the resistance it generates is certainly something to keep in mind. Who is transporting, handling, processing these rare earths? Where are they coming from? Who is buying and selling them? How do we make the connection between them and the war? It is easy for us to understand, but for most the connection is not so obvious.

Do the women in Ukraine today, who are demanding that their sons, husbands, fathers, the anti-war movements there and elsewhere, limit their time at the front, see the connection that Ukraine is a resource-rich country and everything else is merely a show?

The homeland issue is just a useless smokescreen, somebody is getting rich and the nation is just an excuse. It is pure geopolitics and survival strategy of power blocs and their attached masters.

In conclusion

One of our tasks, I think, should be to ask ourselves, first of all, how we can combine our often remarkable studies of the problems surrounding us - which we have shown over time through various works that we are capable of doing - with two things.

First, what to make of them beyond an emergency response perspective. Too often we get “distracted” trying to respond successfully to serious events that obviously do not make us look away. There is the question of how, what, where our analytical work can lead us to build or otherwise foment an insurgent movement, a qualitative preparation to confront and attack, given the context and our obvious difficulties.

The other aspect is to gather our strength, to equip ourselves with new tools, to bring out of our circles the world we are fighting for, what we are glimpsing. Why are we anarchists today, how much effort do we put into making our ideas understood? Do we care that the people around us understand the different life we propose? We cannot, I believe, answer the world's complex problems, but together we can certainly improve the suggestions we can give to those we believe are our future accomplices. There is much work to be done to make our dreams understandable to those who, like us, are exploited among the exploited.

In these years of being on the run, I have walked a lot, seen many places, and always walked through them with a curious eye, always imagining how it could be different if we lived without states and without all the poisons of today. I fantasized, perhaps too much. My eye would erase from view everything that I considered a source of oppression. And often the dream remained of respectfully cultivated lands, crystal-clear waters, forests used carefully and judiciously, I could smell animals. They will not take from me the dream of believing that another world is possible and that this hu-

manity can emancipate itself and free itself from its ugliness. I will not allow them to take away this perhaps romantic confidence I have in the necessary struggle for freedom and a life in harmony with nature and the creatures around us.

We have the dagger by the handle; it is up to us to know how to make use of the blade.

7

Luca Dolce aka Stecco
05/12/2023 Sanremo Prison



7 Stecco is an anarchist comrade arrested on October 20, 2024 after two years of being on the run. The charges for which he is in jail are aiding and abetting the hiding of another comrade prisoner, Juan Sorroche, falsification of documents, and other prosecutions. He is currently imprisoned in the San Remo jail. To write to him: Luca Dolce, C.C. di Sanremo, strada Armea 144, 18038 Sanremo (IM), Italy