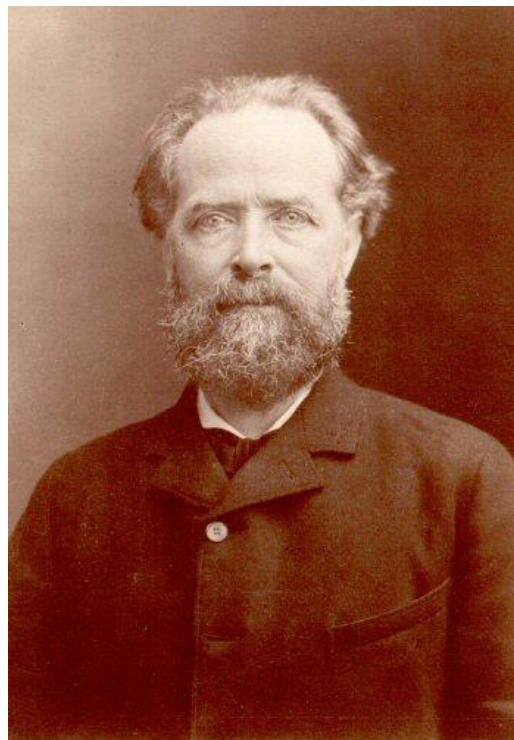


## Human action on physical geography

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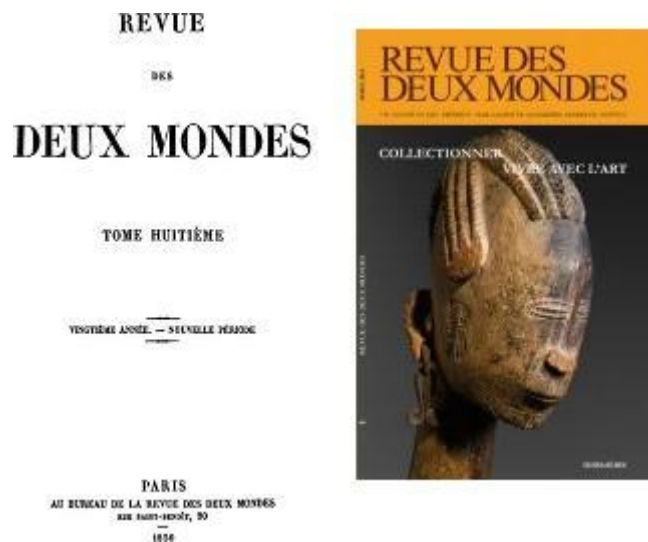


***Figure 1: Photography of Élisée Reclus by Nadar (1820–1910).***

When “De l’action humaine sur la géographie physique” was published in 1864, Élisée Reclus was enjoying burgeoning fame. After going into exile after the Coup d’état of 1851, he had not returned to France until 1857. Upon his return, he devoted his time to writing geography articles and the Hachette-published Joanne tourist guides. His first serious association with anarchism also dated back to 1864, when, with his brother Élie, he joined the International Workingmen’s Association and met Bakunin, the most celebrated anarchist theorist of the day. His great works on geography date from after that year:

*La Terre* (two volumes, 1868–1869), *La Nouvelle Géographie universelle* (nineteen volumes, 1876–1894) and *L'Homme et la Terre* (six volumes, 1905).<sup>1</sup>

Reclus began to contribute to *Revue des deux mondes* in 1859, when he published an account of his travels in New Granada – a region encompassing the present-day states of Colombia and Panama – in several instalments. This text was collated and published by Hachette in 1861 under the title *Voyage à la Sierra-Nevada de Sainte-Marthe, paysages de la nature tropicale*. It tells of his experience in New Granada, when he had tried unsuccessfully to establish a farm. Other articles were to follow, mainly on the Americas and in particular on the situation of black people in the United States.



***Figure 2: Revue des Deux mondes (founded in 1829), and its cover over 180 years later.***

Founded in 1829, the *Revue des deux mondes* was at the time a very well-known periodical whose – mainly conservative – readership was estimated at 26,000 subscribers in 1885. It is one of the oldest periodicals in France and today has 5,000 subscribers. In Reclus’s day it published what were often very detailed and topical articles on literature and the arts, science and politics of the day, in the form of analytical book reviews or essays. In addition to purely literary texts (such as Eugène Fromentin’s *Dominique*), its reviews also covered history (*La Grèce depuis la chute du roi Othon* by François Lenormant), economics

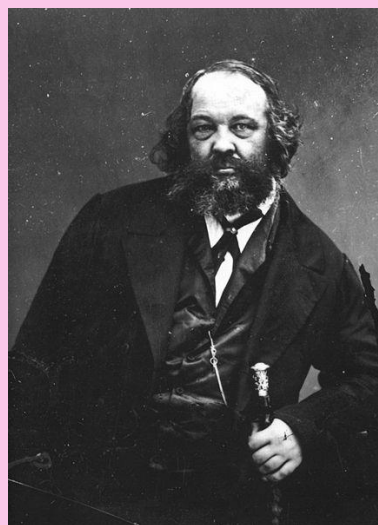
1. These volumes are available online on Gallica (BnF), [here](#), [here](#) and [here](#) respectively. Given that the work is divided into several volumes, we have provided the links to the BnF catalogue showing the different volumes (see the “En savoir plus” tab on *BibNum*).

(*L'Économie rurale en Néerlande* by Émile de Laveleye) and anthropology (*Caractères physiques et moraux des Polynésiens* by Jean Louis Armand de Quatrefages de Bréau), etc. The celebrity of its authors varied hugely, and the little-known Reclus was published alongside prestigious writers such as George Sand, Jules Michelet, Henri Taine and Victor Hugo. Reclus's contributions to *La Revue des deux mondes* continued over several years: as he held no official position and was not affiliated to any institution, they supplemented his income, which was then derived exclusively from his published writing.

### Landmarks in the life of Élisée Reclus

Élisée Reclus was born into a large family in 1830. His father was an evangelical minister. His brother Élie, an ethnologist (1827–1904), was an important figure among his 13 brothers and sisters, and the brothers shared anarchist convictions. Élisée's father intended him to become a minister and sent him to join Élie at a school run by the Moravian Brothers in Neuwied in Prussia. But the two brothers could not stand the school atmosphere and fled in 1844. Élisée became an atheist in the late 1840s and arrived in Berlin in 1851, where he attended Carl Ritter's (1779–1859) classes, which left a deep and lasting impression on him. The coup d'état of 2 December 1851 radicalised his and his brother's political engagement and together they went into exile. Élisée travelled a great deal, particularly in Louisiana and South America.

In 1857 he returned to France and began to publish texts, mainly about geography. He was elected to the Paris Geography Society the following year. The year 1864 was a major turning point, for, again with Élie, he joined the International Workingmen's Association and met the Russian anarchist Mikhail Bakunin (1814–1876). His first major geographical work, *La Terre*, was published in 1868.



**Figure 3: Mikhail Bakunin (1814–1876), the Russian anarchist theorist (portait by Nadar).**

He was a political activist during the Franco-German War of 1870 and then during the Paris Commune of 1871, in which he was a member of the National Guard and Nadar's hot-air balloon "brigade". Arrested by the Versailles government, he was condemned to deportation to New Caledonia but his sentence was commuted to exile under pressure from French and foreign savants. Reclus left for Switzerland in 1872, where he became more radically engaged in anarchism. From this point on, his life as a geographer and anarchist was a very active one. In 1875 he began to publish the *Nouvelle géographie universelle*, the 19th and final volume of which was published in 1894. He met Pierre Kropotkin (also an anarchist geographer), with whom he became friends and whom he helped during his exile to Great Britain. He also travelled frequently.

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Élisée Reclus did not return to France until 1890, but was once again forced to leave in 1893: after the attack on the Chambre des Députés by Auguste Vaillant, the authorities implemented the so-called *lois scélérates* ("villainous laws") with the aim of repressing the anarchist movement and even punishing its propaganda.

He arrived in Brussels, where the Université Libre offered him a post. However, the wave of anarchist terrorism put an end to this plan. He taught instead at a new, alternative university, yet he could not reach a large audience because the classes did not lead to a diploma and there were few students. In 1905 Reclus completed the work he considered to be his most important, *L'Homme et la Terre*, which was published posthumously by his nephew Paul Reclus (1858–1941).

### THE SONS OF THE EARTH

"De l'action humaine sur la géographie physique" is an analysis of a work by George Perkins Marsh (1801–1882), published in London in 1864 under the title *Man and Nature, or Physical Geography as Modified by Human Action*.

From the outset, Reclus stresses the links between humanity and the planet with the following vivid expression: "*Nous sommes les fils de la terre*" [We are the sons of the earth]. This is not a flight of poetic enthusiasm – the same idea runs throughout his work – nor is it an expression of mysticism: it would be difficult to accuse the atheistic Reclus of religious feeling. Yet it is one of the essential themes underpinning his work: the evolutionary anchoring of the human species and its place within nature. He continued to insist on this intimate and powerful relationship over the next forty years. It is used as a motto in his last book, dating from 1905, *L'Homme et la Terre*: "*L'homme est la nature prenant conscience d'elle-même*" [Man is nature becoming conscious of itself].

Like Pierre Kropotkin, a fellow geographer and anarchist, Reclus was an early subscriber to the evolutionism of Charles Darwin, whom he would compliment in a letter from 1892:

*In the history of the world, all the disciplined armies of a Napoleon cannot equal one word from Darwin, the fruit of a life's work and thought.*<sup>2</sup>

When Reclus says "We are the sons of the earth", he therefore writes from a secular, biological, historical and evolutionist perspective. In 1902 he even wrote a short book about his evolutionist views – *L'Évolution, la Révolution et l'Idéal anarchique* – which reads like a trial run of his last great work, the six volumes of *L'Homme et la Terre*, completed in 1905. In it he stresses that the human species is an animal species, even though some of its characteristics make it different from other animals.

This was not a case of biologising human nature. Rather, there was a widely held nineteenth-century belief – found in Humboldt, for example – that human beings, like animals and plants, cannot be studied in isolation, but form a whole with their environment. Reclus expounds and extends this idea, affirming that:

*All the facts of history are in large part explained by the arrangement of the geographical theatre in which they occur.*

By *geographical theatre* he means the surroundings considered from the perspective of their biological, geological and climatic composition. This introduces another central idea in his work: the importance of surroundings (today we would use the word *environment*) as a causal factor. A large part of Reclus's work is focused on understanding the connections between the nature of societies and their natural, geological and geographical environment. This might be considered an ecological analysis, but the use of the term poses problems: although envisaged by Ernst Haeckel (1834–1919) as early as 1864, Reclus never used this term. The word *ecology* did not really gain a foothold until the early years of the 20th century.

Reclus was not alone in his approach of explaining the nature of a society, animal behaviour, the distribution of a species or even the personality of an individual by the study of surroundings. It is found in the writings of very many authors and scholars, to the point that it may be considered one of the cultural characteristics of the 19th century. It therefore stands to reason that, after a few

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2. Élisée Reclus (1925). *Correspondance. Tome troisième et dernier, Octobre 1889-juillet 1905 et compléments aux deux premiers volumes*, Alfred Costes éditeur (Paris): 339 p.

introductory lines, Élisée Reclus invokes Humboldt, Ritter and Guyot. The following section briefly outlines their work and their relationship with Reclus.



Alexander von Humboldt (1769–1859) was a German naturalist, geographer and explorer who is famous for his travels in South America between 1799 and 1804. Humboldt was not just a traveller: he was the most famous and celebrated scientific figure of the 19th century, and his influence is immense. In the history of science, he is credited as being one of the founders of biogeography (or the study of the distribution of organisms). However, Humboldt's significance transcends that discipline alone: his advocacy of scientific rigour and sensitivity to nature makes him the ideal of a science capable of embracing the world as a whole.

Carl Ritter (1779–1859) was a German geographer who endeavoured to make his discipline a veritable science, notably by abandoning purely descriptive geography and adopting a strongly history-inspired discourse. In Ritter one finds an idea that Reclus would himself embrace, namely that "the earth is the body of man and man is the soul of the earth". This affinity of ideas is not a matter of chance, for Reclus had followed Ritter's classes during his stay in Germany in 1851, and would become one of his translators. It should be noted that many historians of geography consider Humboldt and Ritter as the fathers of modern geography.

Arnold Guyot (1807–1884), today the least well-known of the three authors cited by Reclus, was an American geographer and geologist of Swiss extraction. He attended Berlin University, where he met Humboldt. He was a close friend of Louis Agassiz (1807–1873), who brought him to the United States, where Guyot would found the United States Weather Bureau.

It is no accident that Reclus cites these three names: they are a way for him to show that he is following a specific geographical approach – the study of the influence of physical geography (or surroundings) on the history of humanity.<sup>3</sup>

Nevertheless, Reclus does not subscribe to a determinist approach claiming that surroundings are the sole cause of differences between peoples. He conceives the relationship between human beings and their surroundings as one

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3. To echo the title of a work published by Guyot in 1871: *The Earth and Man, Lectures on Comparative Physical Geography in Its Relation to the History of Mankind*.

of interaction: the development of intellectual, social and technical capacities has enabled humans to undertake extensive action within nature, for better as well as for worse. Indeed, that is the very subject of the text, encapsulated in the following sentence:

*... the earth is the body of humanity, and ... man, in turn, is the soul of the earth ... Man's action, on the contrary, produces the greatest diversity of aspects on the earth's surface. On one hand it destroys; on the other it improves.*

### **MAN AS GEOLOGICAL AGENT**

Mankind has therefore become a veritable geological agent, just like erosion or earthquakes:

*As peoples have developed in intelligence and freedom, they have learnt to act on this external nature, whose influence they once passively endured. Having become true geological agents through their association, they have transformed the surface of the continents in various different ways, modified the course of running water and altered climates themselves.*

That humans can have a considerable and negative impact on nature and the surroundings was no news to the reader in 1864. Many had remarked on this before Reclus: "It seems that man is destined to exterminate himself after making the world uninhabitable", wrote Lamarck in 1817.<sup>4</sup>

Yet though human interventions can degrade the surroundings, they are not necessarily negative, and Reclus adopts a balanced point of view. This attitude is a constant in his work and can be summed up as follows: progress is never entirely positive or negative. In 1902 he wrote that "revolutions do not necessarily constitute progress, just as evolutions are not always directed towards justice."<sup>5</sup> This critical judgement of progress is common among anarchists. Indeed, Reclus invented the word *régrès*<sup>6</sup> (regress) to describe negative progress.

There is always a glimmer of optimism in Reclus and his writing:

*The truly civilised man, understanding that his own interest is bound up with the interest of all and of nature itself, acts quite differently. ... On*

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4. Jean-Baptiste de Monet de Lamarck (1817). *Homme, in Nouveau dictionnaire d'histoire naturelle appliquée aux arts, à l'agriculture, à l'économie rurale et domestique, à la médecine*. Volume XV, Jean François Pierre Deterville (ed.), Deterville (Paris): 270–276.

5. Élisée Reclus (1902). *L'Évolution, la Révolution et l'Idéal anarchique*, Stock (Paris), Bibliothèque sociologique : 296 p.

6. Élisée Reclus (1905). *L'Homme et la Terre*. Volume 6, Librairie universelle (Paris): 579 p.

*becoming "the conscience of the earth", the man worthy of his mission thereby assumes his part of responsibility in the harmony and beauty of the surrounding environment.*<sup>7</sup>

Improving the earth in the interest of all is a central creed for the anarchist Reclus. Indeed, he stresses that this "improvement" must always go hand in hand with a genuine sharing of wealth and fully achieved equality between men: progress based on injustice or inequalities is nothing more than *regress*.

Yet Reclus is forced to admit that

*Human activities unfortunately still produce the fatal outcome of impoverishing the soil, defacing nature and spoiling climates. Considered as a whole, humanity has not advanced beyond primitive barbarism.*

There are abundant examples showing that civilisation has not led to an improvement of the earth, but on the contrary to its degradation and defacement.

The connection between the beauty of the world and the happiness of humanity is a constant theme in Reclus's work. It can be found in various texts such as the *La Terre* (two volumes, 1868–1869), *À propos du végétarisme* (1901) ou *L'Homme et la Terre*. The beauty Reclus tells of is that of a world at peace, and this is not only a peace between men, but also with animals and nature in general. This idea resurfaces at the end of his article.

### **THE IMPACT OF MAN ON NATURE**

For Reclus, this entire article is more an opportunity to set out his own vision of the impact of man on nature than it is an analysis of Marsh's book. His only real comment about *Man and Nature* is that this "enquiry" "lacks method", though he does not explain what this means to him.

Drawing on Marsh's thesis, Reclus cites numerous examples of the despoilment of nature as a result of the reckless management of inhabitants. He gives the example of the French Alps, where deforestation by "grasping [forest] owners" had led to soil degradation on the mountainsides, and more particularly the quickened erosion of the thin layer of fertile soil. His description is apocalyptic:

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7. Élisée Reclus (1869), *La Terre : description des phénomènes de la vie du globe*. Volume 2, Hachette (Paris): 806 p.



*the rocks are denuded; banks of debris, vast fields of stones replacing the pastures and farmlands of the valleys ... one cannot see a single patch of green thicket for several leagues ... ruined houses merge into the crumbling rocks that surround them.*

Reclus also points out that this deforestation is accompanied by more or less radical climatic changes and more frequent and heavy floods:

*The rain, which fell drop by drop from the intertwined branches of the trees and seeped slowly through the dead leaves and root hairs, now runs rapidly along the soil, forming temporary rivulets instead of moving deep underground ... the volume of running water increases upstream, and spates turn into floods ... immense disasters come to pass, like those caused by the Loire and the Rhône in 1856.*

Later in the text, he turns to deforestation and climate:

*Generally speaking it may be said that forests, which are comparable to the sea in this respect, reduce natural differences in temperature between the different seasons, while deforestation increases extremes of heat and cold and adds strength to atmospheric currents.*

This relationship between forest cover and climate – which today has been taken up by many environmentalists – was dismissed as a myth by some specialists of the time.<sup>8</sup>

Reclus also refers to a more general human attitude to nature. Human activities not only lead to a simplification of natural diversity – he cites the replacement of forests by a few species of cereals – but also to veritable domination. He thus denounces the loss of forests and the tallest trees:

*It seems that man is jealous of nature and seeks to shorten the products of the soil, not allowing them to grow beyond his height.*

This need to remake nature on a human scale is also manifest in the extermination of megafauna.

Reclus invokes older extinctions (the mammoth, Irish elk, etc.) to predict the future extinction of large animals such as the elephant, the lion and the rhinoceros, a process he considered inevitable. This reference to the extinction of species due to human activity was anything but new in 1864: all specialists of the day recognised that man was an important cause of extinction, both in the current era and prehistoric times. A text like that of the Scottish naturalist John Fleming (1785–1857), *Remarks Illustrative of the Influence of Society on the*

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8. Cf. for example, Vasant K. Saberwal (1998). Science and the Desiccationist Discourse of the 20th Century, *Environment and History*, 4(3): 309–343; Ian R. Calder (2002). Forests and Hydrological Services: Reconciling Public and Science Perceptions, *Land Use and Water Resources Research*, 2: 2–12.

*Distribution of British Animals*, published in 1824, is highly significant in this respect. For Fleming, the action of *prehistoric* man – a term he does not use, for it is anachronistic here – was one of the major causes of the extinction of recent megafauna found in geological deposits – such as the elk, hippopotamus or rhinoceros. Forty years later, when Reclus was writing his article, there was complete consensus on this point.



**Figure 4: Steller's sea cow** (described by Reclus as "Steller's enormous sea cows", p. 767). The naturalist Steller had discovered its existence in 1741 during an expedition to the Bering Strait. News of the animal's existence attracted scores of fishermen and it is estimated that within 30 years, the sea cow was extinct (Wikicommons photo; Natural History Museum, London, collections; author: Emőke Dénes).

Reclus describes more than just the destruction of surroundings or species; he extends his discourse to ecosystem dysfunction caused by humans. He cites a very common observation of the time, namely that the proliferation of insects is the result of the increasing scarcity of overhunted insectivore birds. While the scientific community of the day agreed that human-caused dysfunctions were a reality, no one possessed quantified and reliable data to demonstrate this fact: the appropriate scientific tools did not emerge until after the First World War, with the rise of scientific ecology.

Reclus also mentions the proliferation of jellyfish and infusoria as a consequence of the gradual disappearance of cetaceans and fish. We now know for certain that the increasing number of jellyfish is a result of the elimination of large predators (particularly sharks) in domino-like trophic chains: their increasing scarcity leads to an expansion in the numbers of smaller predators (who are no longer eaten by the bigger ones), which in turn leads to a reduction in primary predators, thereby increasing the number of their prey, i.e. jellyfish.

### Marsh's view of Reclus



***Figure 5: George Perkins Marsh (1801–1882), considered one of the precursors of American environmentalism.***

Marsh knew of Reclus's early publications because in *Man and Nature* he cites the latter's text on French coastlines published in the *La Revue des deux mondes* in 1862 and 1863. The two men henceforth maintained regular correspondence. When Marsh republished his book in 1874, under the revised title *The Earth as Modified by Human Action: A Last Revision of Man and Nature*, he includes a lengthy discussion of Reclus in his introduction. He stresses that the second volume of *La Terre*, which Reclus had published in 1868 (integrating Marsh's comments), considers similar themes to his own. He showers praise on Reclus's book: "I earnestly recommend the work of this able writer to the attention of my readers." He particularly emphasises the fact that Reclus had endeavoured to show the positive aspects of human action ("conservative" and "restorative") rather than the negative effects. Marsh sent Reclus the manuscript of a preface to the English translation of *La Terre*, in which he compares the scope of Reclus's work to that of Humboldt. Reclus thanked him warmly and did not wish to make any changes to the preface, which, he wrote, "will certainly be a most important addition to my book". However, he did ask Marsh to remove the reference to Humboldt, for, he added, "by comparing me to that influential man, you make me very small in contrast".

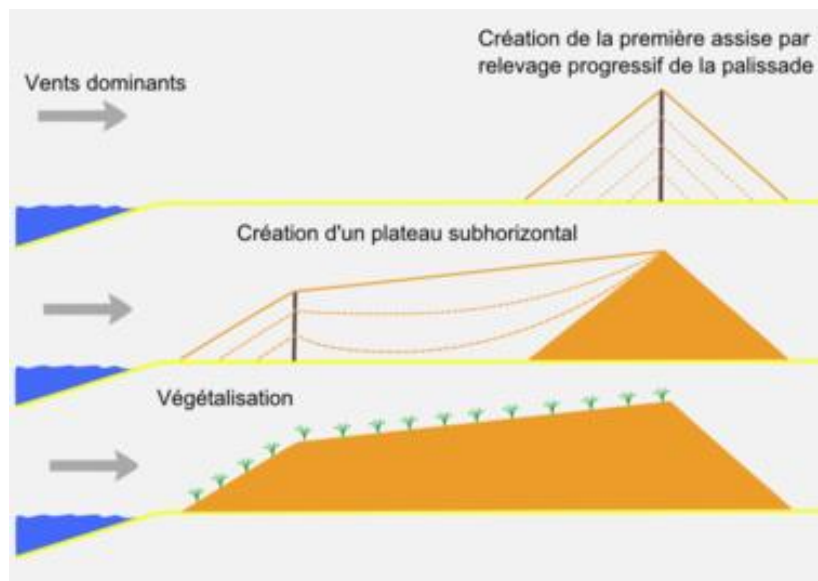
## MARSH THE PESSIMIST AND RECLUS THE OPTIMIST

The denunciation of man's negative role, established by Marsh and adopted by Reclus, was a recurring theme throughout the second half of the 19th century: since the beginning of the industrial era, observers had noted the extinction of numerous species and the growing scarcity of many others. Far from being a figment of the imagination, this was a very real consequence of social transformations: industrialisation, urbanisation, demographic expansion, changes to agricultural practices, increased deforestation, the replacement of large swathes of pastures with cultivated fields, improvements to fishing techniques, the introduction of steam ships and railways allowing for the easier sale of fishing catches ... Reclus points out that

*[Men] are far more industrial than they are artistic, preferring force to beauty. What man wants today is to adapt the earth to his needs and to take complete possession of it so as to exploit its immense riches.*

Yet while Marsh confines himself to a negative description of humanity's impact, Reclus always seeks to offer a balanced judgement and share his profound optimism. He recognises that many of man's interventions in nature have had disastrous consequences due to their lack of foresight, but that many others (such as the construction of dykes in Holland) have been beneficial:

*In all the countries of the civilised world, such as Holland, there have been magnificent undertakings whereby man has modified a few of the geographical features of the earth to his advantage.*



**Figure 6: Modern diagram of the fixation of sand dunes in Aquitaine.** This operation, which was carried out from the early 19th century and continued for 50 years by the Ponts and Chaussées, is described in the following terms by Reclus: "Over a distance of over 200 kilometres, plantations were used to fix chains of mobile dunes that

*were laying claim to the heathlands of Gascony.” (WikiCommons image; author: Larrousinéy).*

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Like many of his other articles, this text is ultimately just a simple *fragment* that Reclus recycles in his works: most of what is said in “De l’action humaine sur la géographie physique” can also be found in *La Terre*. In order to understand the deeper sense of Reclus’s vision, it is therefore necessary to read *La Terre*, for it is here that he elaborates on his undisguised optimism, and particularly the ability of peoples to “make the earth beautiful”. The loss of beauty is not inconsequential, for it also has an effect on morale:

*Where the soil is despoiled and all poetry has disappeared from the landscape, imagination is extinguished, minds are impoverished, routine and servility take possession of souls and dispose them to torpor and death.*

The closing lines of *La Terre* make Reclus’s message clear:

*The features of the planet will never attain their complete harmony while men are not united together in justice and peace. To be truly beautiful, the “benignant mother” is waiting for her sons to embrace as brothers and finally conclude the great federation of free peoples.*

As the present text shows, the critical judgement of progress found in Reclus and his work – as well as the importance conferred on the harmonious development of man and nature, and, finally, the relationship between this development and the necessary existence of a free and egalitarian society – means they can absolutely be considered founders of a social and humanistic ecology.<sup>9</sup>



(August 2013)

(Translated by Helen Tomlinson, published October 2015)

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9. He would also exert great influence on other thinkers within this little-known movement, such as Patrick Geddes (1854–1932), Lewis Mumford (1895–1990) and Murray Bookchin (1921–2006).