acted as president of the Geological Society. An experienced alpinist, in 1874 Stoppani became the first president of the Milan section of CAI (Club Alpino Italiano).

In the late 1880s, Stoppani would return to and confront his theological roots, publishing Gli intransigenti—a book critical of the Catholic Church and its resistance to political and social change—which prompted attacks from L'Osservatore Romano. Later, in his ethno graphic study of the various places and populations that inhabited the recently unified Italian territory, Il bel paese, Stoppani would wonder at the diversity of tellurian physical expression: “Italy is almost—I don't stammer in saying this—the synthesis of the physical world.” The excerpt below, translated from Stoppani's three-volume Corso di Geologia of 1873, is exemplary of its breadth of knowledge, courageous imagination, and compelling but accessible rhetorical inventiveness. Nearly 13 decades before Crutzen's coinage of the Anthropocene, in this text we find an untimely assessment of the human relation to deep time; perhaps, in the wake of these more recent debates and the more evident excesses of human productivity, we finally have ears to hear him.

The Italian geologist Antonio Stoppani is a remarkable but little-known figure in the history of science and the theoretical humanities. Recently, following debates about the Anthropocene initiated by the Dutch chemist Paul Crutzen, some scholars have returned to Stoppani's writing for its eloquent argument regarding the appearance of human activity in the archive of deep time—the earth. Born in Lecco in 1824, the young Stoppani studied to become a priest of the Rosminian order, and was ordained in 1848. In the same year, Stoppani participated in the resistance during the Cinque giornate di Milano (Siege of Milan), where he both fought on the barricades and, fantastically, invented and fabricated aerostats that were used to communicate with the periphery and the provinces, sending revolutionary messages to the countryside from inside a barricaded Milano. In this endeavour, he was helped by the typographer Vincenzo Guglielmini, who worked with Stoppani to ensure that the aerostat balloons would travel from the Seminario Maggiore di Porta Orientale over the walls erected around the city (and the Austrians trying to shoot them from the sky) to encourage Italians to revolt against the Austrian Empire.

Following this siege, Stoppani also participated in subsequent confrontations, but following the Battle of Novara in 1849 he returned to the seminary as grammar teacher. This return was short lived, however, because Stoppani's patriotic past and political ideas remained unwelcome by the Church. Following his expulsion from the seminary, he began to study geology, and, while his religious conviction is clear and consistent in his writings on geology, it is for his advances in understanding terrestrial affairs, not theological dogma, that he is best remembered. Notably, after the liberation of Milan, Stoppani's merits were acknowledged and his old titles reinstated. In 1867, he was appointed Professor of Geology at the Politecnico di Milano, where he also helped to found the Museum of Geology, and

The Anthropozoic Era: Excerpts from Corso di Geologia (Miliano: G. Bernardoni E. G. Brigola, Editori, 1873)
by Antonio Stoppani, translated by Valeria Federighi,
edited by Valeria Federighi and Etienne Turpin
photography by Alex Berceanu

The Anthropozoic Era
Excerpts from Corso di Geologia
by Antonio Stoppani

Those formations, which are about to present us with a great new era, are for geologists nothing more than a last, minor appendix of Quaternary terrains on which we have founded the Neozoic. I anticipate there will be an outcry; they will protest against a supposed violation of all laws of proportion, whereas those terrains add little more than a small fraction to the great masses that compose the history of the earth's crust, and represent a very short period in the history of the world. Much more indignant will be those (they are not, by good luck, those who have greater voice in the matter) that declare the tertiary man, and in the sovereign creature of the universe only see the base descendant of
The Anthropozoic Era: Excerpts...

...with a strength by no means known to an ancient quadrumana. To answer only the former (those that will be scandalized by its tenuity), when, for instance, compared to the Paleozoic era), I refer them to what I said at the beginning of the previous chapter.

Whenever, I repeat, have epochs been divided based on their sheer length? Is it not true, as I said, that for divisions in history, not the period’s duration, but the importance of its happenings, has always been the meter? Reinforcing the comparison between history and geology, and speaking of the Anthropozoic era in particular, it is necessary to reflect on how the introduction of a new element, a new force—that gave humanity or a nation a new input, that separated the new from the old, building on the ruins of an ancient political, intellectual, or moral edifice the foundations of a new one—served especially for the purpose of dating the epochs of both universal and particular histories.

I recall with pleasure the event which we believe opened the vulgar era. When was it that (more for a necessity as felt by the universe, than for a convention accepted by historians of all nations) we began to count years anew, and we established the two eras in which we partition universal history? This happened when in the world resounded the great Word; when, in the bosom of the aged fabric of ancient pagan societies, the Christian ferment was introduced, the new element par excellence, that substituted ancient slavery with freedom, darkness with light, fall and degeneration with rebirth and the true progress of humanity.

It is in this sense, precisely, that I do not hesitate in proclaiming the Anthropozoic era. The creation of man constitutes the introduction into nature of a new element with a strength by no means known to ancient worlds. And, mind this, that I am talking about physical worlds, since geology is the history of the planet and not, indeed, of its history. The comparison between history and geology, and speaking of the Anthropozoic era in particular, is necessary to reflect on how the introduction of a new element, a new force—that gave humanity or a nation a new input, that separated the new from the old, building on the ruins of an ancient political, intellectual, or moral edifice the foundations of a new one—served especially for the purpose of dating the epochs of both universal and particular histories.

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human industry is the most fervent, crum- and caves in, everywhere eaten through by insatiable coal, rock salt, limestone, and metal miners. What will happen, when Eu- rope will all be worked through as England, and the whole world as Europe? Further- more, man’s influence is not limited to dry land. The very sea cannot escape his domi- nation. It recedes already, pushed back by obscurative dams, pumps, and joints that steal from it arms and lagoons and swamps to make fields. Neither is its immensity of any help in dividing land from islands, islands from continents, as thousands and thou- sands of ships have opened the way through which nations can embrace, and lands ex- change products of the three kingdoms in mutual tribute. Even the unexplored depths of the ocean were forced to act as inter- cessor, in order to put in contact the peo- ples of the two worlds. And man invades the atmosphere as well, and not content to just pour, as animals do, the products of his respiration into it, he also pours vast amounts of the products of his industry, gases from his fires and his grandiose lab- oratories. A century, or just a year, since a family of men settled onto virgin soil, and everything is changed, everything breathes with the strength of human intelligence.

So man dominates over inorganic mat- ter, as nothing in nature had governed him for innumerable centuries; but his yoke does not spare the other, nobler kingdoms. The iron law that his sin brought upon him made man essentially, among other divi- sions, a farmer. Here he razes woods; there he covers bare lands with woods; wood is turned into tools; logs into poles; deserts become meadows; squalid moors, verdant fields; nude hills, vineyards and gardens. Greens are not allowed to grow haphazardly any longer, nor to agglomerate into messy and nameless groups. Arranged in rows, seeded in beds, grouped in woods that take their names from the essence that man planted there, cut, pruned, tormented in innumerable guises, fed by artificial heat and waters, they testify everywhere that man has taken full control of that kingdom which God has allocated him for food and shelter. Neither, under his irresistible strength, have plants only submitted to a regime that nature had not imposed; but, oblivious to their own primitive nature, bowing to forced matrimony, new species are simulated under the horrific mask of hy- bridism, while others lie with the flowers and fruits that grafting created. Botanists can only look into the furtthest depths, into mountains’ fissures, on the highest peaks, for the untamed daughters of virgin nature, which carry unalterable the features of their Mother. One of the laws that gave geologists the surest criteria to understand conditions of the earth in ancient eras, and that seemed to be even stronger in the current era because of the stricter partitioning among lands and climates, is by man powerfully violated. I am talking about the geograph- ical distribution of plants and animals. Torn away from native soil, servant to the needs and pleasure of he who holds empire on earth, how many plants were brought to usurp, through forced theft, our native plants’ place? Without coming to a very late age, we witnessed the arrival, in Eu- rope, of many of them, and many others were seen by just past generations, which wondered at the discovery of a new world. Many of these imported ones have already overcame the indigenous species. Huge expanses of our fields are covered in corn (Zea mays), originally from South America; in potatoes (Solanum tuberosum) from the same region; in tomatoes (Lycopersicon esculentum) that with his vulgar name, similar to that of Tomats that aban- doned in its native land, recalls Mexico, from where, in exile, it came to us. North America gave us false acacia (Robinia pseudoacacia) and spina Christi (Gleditsia triacanthos, or honey locust), naturalized to the point of becoming a pest to our own. To these plants of North America we should add maple (Negundo fraxinifolium).

Other species came from the farthest regions of the ancient world in times so remote that no one can suspect them not to be our own since they have been with us for so many centuries. Amongst these, beans (Phaseolus vulgaris) with their infi- nite variations, and pumpkins and melons (Cucurbita maxima, C. pepo), also well var- ied, came from the Eastern Indies. Asia also brought us the fava beans (Vicia faba) and spinach (Spinacia oleracea). From the plateaus of Central Asia came common garlic (Allium sativum); from China, with silkworms, the mulberry tree (Morus alba); from the East, probably from Persia, the peach tree (Persica vulgaris); from Asia and northern Africa, the almond tree (Amyg- dalus communis); from Asia also, Indian chestnut (Aesculus hippocastanum); from Japan, Paper Mulberry (Broussonetia papy- rifera), which now grows spontaneously along creeks and among rubble; from Asia Minor, the grape vine (Vitis vinifera), which, grown everywhere in its infinite varieties, now also sprouts independently in woods and along bushes. For his pleasure, then, man transplanted roses from Asia (Rosa centifolia, damascene, indica); from Peru the sunflower (Helianthus annuus); from Mexico the dahlia (Dahlia variabilis); from the Orient lilies (Lilium candidum); from India touch-me-nots (Balsamina hortensis); from the Cape of Good Hope geraniums (Pelargonium Zonale, inguinas, etc.). What will happen when that exotic plant export has become an extremely active branch of commerce, favoured by all these recoveries in speculation, science, and luxury? Now that our greenhouses present us with as many glimpses of the torrid zone, and that our gardens disdain every flower that does not carry a foreign name? Not always has man been a voluntary tool of such a radical revolution in the geographic distri- bution of plants. He carried rice from the Eastern Indies; and, immediately among our own paddies an Indian flora sprouted, which had followed furthely the main plant on its far exile. Many times indeed man made complaints over this potency of his that so widely exceeded his own will. Am- ong the seeds that he, oblivious, transports with wool, timber, with every good, how many became pests? Among the most com- mon grasses that are a bight to our fields and meadows, we can count the Erigeron canadensis and Stinrinis annua, which came from North America. From North Amer- ica also came, on ships that carried timber, the Elodea canadensis that took over fresh waters throughout Europe, and recently pushed its invasions to the rivers and chan- nels of Belgium, France, Germany to such a point that is often makes boats go aground. European man, on the other hand, almost to compensate for his thefts, disseminates elsewhere those plants through which he has, in every way possible, enriched his soil. Many species, indigenous to Europe, found themselves in this way cultivated in large scale in other parts of the world, and the new continent was opened to all the plants that inhabited the old. In this way rice, sugarcane, coffee, indigo (Indi- gofera anil), beans, fava beans, wheat, rye, coming from various countries, were har- vested here. Oats (Avena sativa), carried to Montevideo, found the soil so propitious that they grew in vast grazings very similar to their own fields. The endless pampas were covered in cardoons (Cynara cardan- culus) and thistles (Carduus marianus and others), Violets (Viola adorator), borage (Bora- go officinalis), marrubium (Marrubium vul- gare), nettles (Urtica artem, dioica), mallows (Malva sylvestris, rotundifolia), accompanying man in his fortuitous peregrinations across the Atlantic, grew abundantly in the colonies of South America, where they pro- pagated to the detriment of not a few indigen- ous species. Thus, a little at a time, local floras are substituted by a universal flora, deriving from their mixing. It is a new event...
in the history of the world, of which the geologist cannot find any explanation in climate conditions, in the nature of soils, nor even in the laws dependent on a primitive act of creation, but in the boundless influence that, whether he likes it or not, man exercises over telluric nature.

The boundary will be even more effective and absolute, man exercises on the higher of nature’s three kingdoms. From the first moment of creation, with sovereign gaze, he reviewed earth’s beasts. In animals he only saw the usefulness of the damage that they could bring him. He threatened extermination for the harmful, and serfdom for the useful. European man, immigrant from Asia, carried with him without exception (zoologists agree on this) all domestic animals, the use of which is lost in the darkness of prehistoric eras. Their relics are only found alongside the relics of man. Those domestic animals—under the different influences of climate and other local conditions, and more yielding to man’s desire—present us rather with a world of varieties than with a series of species. Suffice it to recall by imagination the most domesticated animals, and to contrive so many modifications that European fauna (differently from ancient faunas of every land) presents us rather with a world of varieties more than with a series of species. In the world of plants, too, this is true. The same dominion, maybe even more, is exercised over telluric nature. Unlike the speechless animals that preceded him by his prints. The first trace of man marks the beginning of the Anthrozoic era.

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