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OR, A

DICTIONARY

OF

ARTS and SCIENCES,

COMPILED UPON A NEW PLAN,

IN WHICH
The different SCIENCES and ARTS are digested into
distinct Treatises or Systems;

AND

The various TECHNICAL TERMS are explained as they occur
in the order of the Alphabet.

ILLUSTRATED WITH ONE HUNDRED AND FORTY COPPERPLATES.

By the SOCIETY of GENTLEMEN of SCOTLAND.

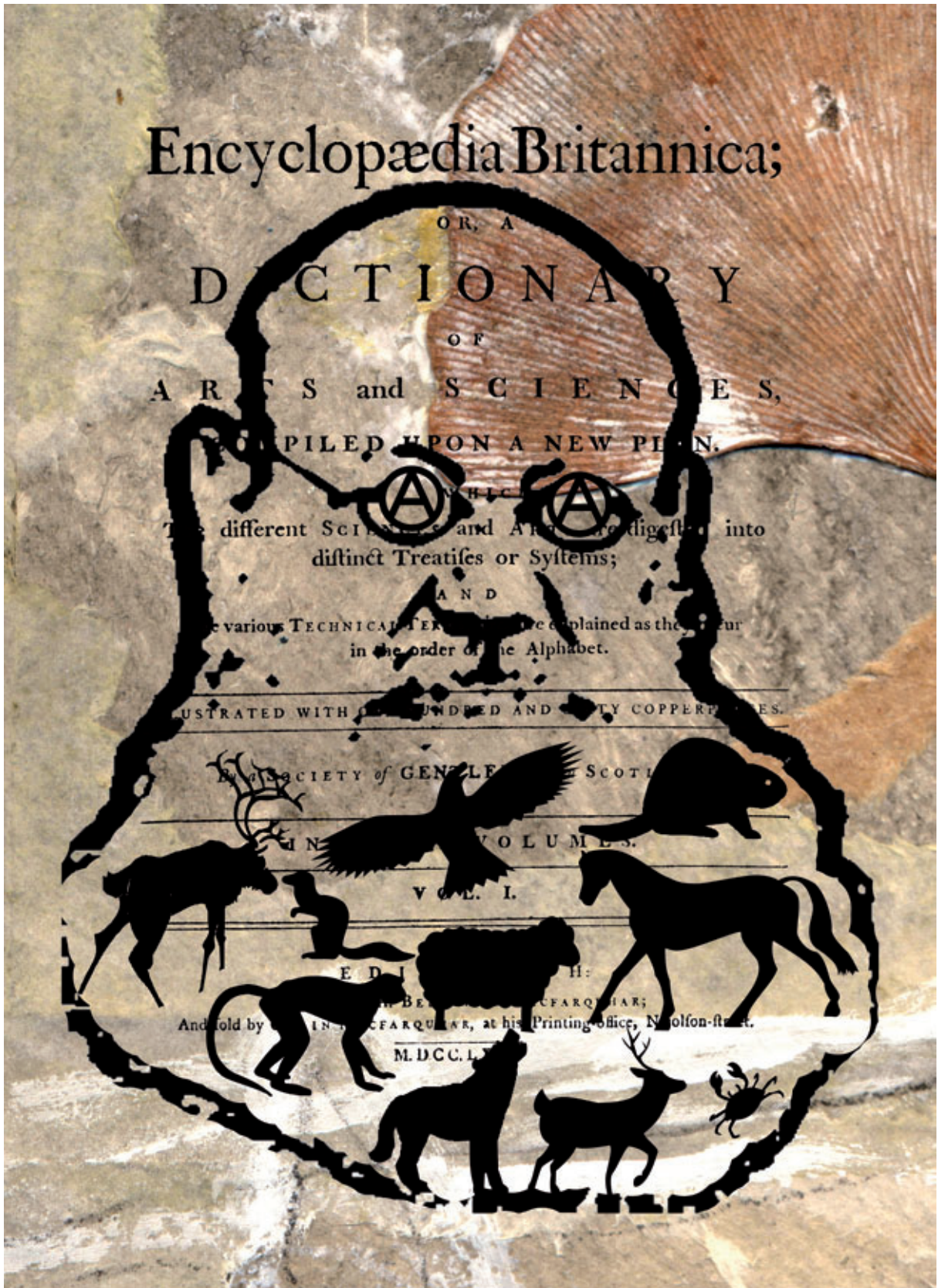
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TAKING PYOTR KROPOTKIN SERIOUSLY

DARWINISM, ANARCHY AND SCIENCE

Álvaro Girón

Illustrations by Ana Donat

More than a decade ago I began to take the first steps in what would eventually become an extensive research into Pyotr (or Piotr) Kropotkin. At that time, newly installed in England for a postdoctoral sojourn, one tended to think that few would be interested in a theoretical anarchist decades after the final collapse of anarchism's brief revival after 1968. It seemed that there would, at best, remain some smouldering embers, appropriately ground down in those days when the Thatcherite orthodoxy – suitably modernized with convenient Blairite clothing – prevailed in Britain and beyond. Well, I soon realized that on the island where he lived for over thirty years of exile, from 1886 to 1917, he was never wholly forgotten.

However, the fact that Kropotkin was not entirely forgotten did not necessarily mean that he had been taken seriously. The related ambiguities are particularly pronounced when it comes to his thoughts on Evolution. On the one hand, he has been praised for his strong resistance to the wrongly-called social Darwinism. Also, he is often mentioned as one of the clearest pioneers in the study of altruism among animals. However, general opinion tends to present kropotkinian vision of nature as something that had more to do with his personal (supposedly benevolent) inclinations or his political ideals than with the dispassionate analysis that he, as a scientist, would be expected to have. In fact, the idea had an earlier origin. Much earlier, in the review published in *Nature* in 1903 on his major work, *Mutual Aid* (1902), the reader would find that Kropotkin attached «to the lower animals a benevolence similar to his own.»¹

¹ F.W.H., 1903. «Mutual Aid». *Nature*, 67: 196-197.

One of the relatively recent attempts to scientifically rehabilitate Kropotkin's interpretation of the Theory of Evolution came, and perhaps not coincidentally, from the pen of the late Stephen Jay Gould, in his essay «Kropotkin Was No Crackpot» (1997). In it, while making generous use of the contribution of Daniel Todes (1989) on Russian Darwinism, Gould challenged the image of the idiosyncratic character who shapes the contours of natural economy in terms of his own peculiar political convictions: Kropotkin was not a rare bird, rather his ideas had their roots in a tradition peculiar to the Russian slant on evolution.

It was a Darwinism without Malthus, which tended to emphasize the capital importance of sociability, if not solidarity, in the struggle that living beings sustained against environmental challenges. What Gould found reassuring was to know that, despite the political connotations that Darwinism had acquired in Russia, not a little of that anti-Malthusian tradition was

based on solid field work in vast, sparsely inhabited territories of the Russian Empire. This contrasted with the foundational experience of someone like Darwin, who was born and lived in an overcrowded island and spent part of his first steps as a scientist in tropical environments. Put another way, the substrate of Kropotkin's anti-Malthusian Darwinism is based, not only on political ideals that may seem eccentric, but rather supported by a respectable scientific tradition, firmly anchored in empirical knowledge of a particular natural environment.

Well-intentioned though Gould's approach had been, one would venture to disagree, however, on two key issues. The first is that Kropotkin's contribution can neither be – nor should be – interpreted as a kind

of peculiar if respectable intrusion of Darwinism –its Russian interpretation– into a totally alien scientific and a social environment. Rather the opposite, in Western Europe there was a discerning public more than ready to accept that sociability has had much to do in evolution especially in the case of animals. As Kropotkin himself publicly acknowledged, the ground had been well prepared through the contributions of figures forgotten today, like Alfred Espinàs, Jean-Louis de Lanessan or Ludwig Büchner. Furthermore, it was Darwin himself who referred in *The Descent of Man* to the key role of social instincts in the genesis of the moral sense. Neither Kropotkin nor his science was peripheral in the post-Darwinian debates about ethics and evolution.

The second discrepancy may perhaps be more heterodox. Gould's point of view is based, more than by mere implication, on the conviction that political ideas inevitably contaminate scientific work when in association: we can indeed take Kropotkin seriously because his peculiar Darwinism is not informed by his anarchism alone, but owes rather more to his experience in the harsh Siberian environment.

Some of us, however, think that there are good reasons to be doubtful of the fact that science can be clinically separated from culture (including what we call politics). Today we recognize that in the genesis of the theory –or rather, geneses of the theories– of Darwin, along with the very respectable finches and barnacles, something was owed to the political economy of Malthus, to religious dissent, to his militant anti-slavery or the expansionist dynamics of the British Empire.

We do not separate some elements, (nature), from others (culture) considering them to be legitimate sources of knowledge, albeit presented as hazardous pollutants: all are constitutive of knowledge. In the same way, let me not make a similar separation when I speak of Kropotkin. If we are to understand his beliefs, better consider him the traveller, the anarchist, the geographer, the respectable man of science, that is to say, view the whole man.

■ THE EXPLORER, THE REVOLUTIONARY, THE VENERABLE SAGE

Kropotkin was born in 1842 to a family belonging to the most ancient Muscovite aristocracy. At fifteen he joined the Corps of Pages of St. Petersburg, where, in addition to receiving military training, he had access to an exquisite technical and scientific education. A brilliant student, he was promoted to the Chamber



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'NECROPHORUS VESPILLO'

As to the beetles, we have quite well-observed facts of mutual help amidst the burying beetles (*Necrophorus*). They must have some decaying organic matter to lay their eggs in, and thus to provide their larvae with food; but that matter must not decay very rapidly. So they are wont to bury in the ground the corpses of all kinds of small animals which they occasionally find in their rambles. As a rule, they live an isolated life, but when one of them has discovered the corpse of a mouse or of a bird, which it hardly could manage to bury itself, it calls four, six, or ten other beetles to perform the operation with united efforts; if necessary, they transport the corpse to a suitable soft ground; and they bury it in a very considerate way, without quarrelling as to which of them will enjoy the privilege of laying its eggs in the buried corpse. And when Gleditsch attached a dead bird to a cross made out of two sticks, or suspended a toad to a stick planted in the soil, the little beetles would in the same friendly way combine their intelligences to overcome the artifice of Man. The same combination of efforts has been noticed among the dung-beetles...

PYOTR KROPOTKIN, 1902. Excerpt from the first chapter of *Mutual Aid*, «Mutual Aid among Animals».



«KROPOTKIN'S BOOK 'MUTUAL AID' WAS TO BECOME AN ATTACK ON THOSE DISCIPLES OF DARWIN WHO, IN HIS VIEW, ONLY SAW NATURE IN ITS MOST BRUTAL LIGHT»



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'CASTOR CANADENSIS'

As to the beaver-rats or musk-rats of Canada, they are extremely sociable. Audubon could not but admire «their peaceful communities, which require only being left in peace to enjoy happiness.» Like all sociable animals, they are lively and playful, they easily combine with other species, and they have attained a very high degree of intellectual development.

In their villages, always disposed on the shores of lakes and rivers, they take into account the changing level of water; their domeshaped houses, which are built of beaten clay interwoven with reeds, have separate corners for organic refuse, and their halls are well carpeted at winter time; they are warm, and, nevertheless, well ventilated. As to the beavers, which are endowed, as known, with a most sympathetic character, their astounding dams and villages, in which generations live and die without knowing of any enemies but the otter and man, so wonderfully illustrate what mutual aid can achieve for the security of the species, the development of social habits, and the evolution of intelligence, that they are familiar to all interested in animal life. Let me only remark that with the beavers, the muskrats, and some other rodents, we already find the feature which will also be distinctive of human communities –that is, work in common–.

PYOTR KROPOTKIN, 1902. Excerpt from the second chapter of *Mutual Aid*, «Mutual Aid among Animals (continued)».



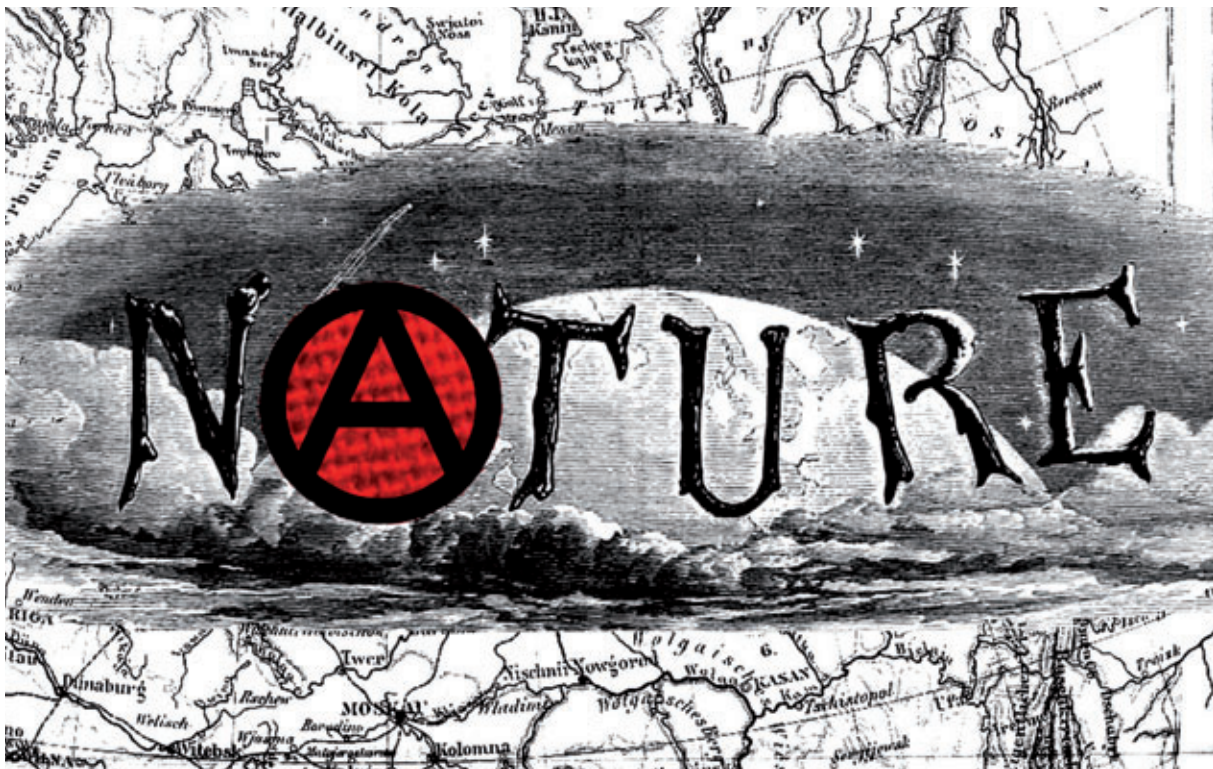
of the Tsar as page in the same year. Of liberal political leanings, he soon became disillusioned by the reactionary nature of the environment of the St. Petersburg palace. In 1862 he joined a Cossack regiment in Siberia (remaining stationed there until 1867), where he hoped to collaborate more effectively in the reform of the country. After a period during which he worked hard on administrative tasks, Kropotkin devoted his energies to scientific exploration. The experience of Siberian life marked him forever. It constituted, in the first place, the touchstone on which he built much of his important contribution to the realm of physical geography. Also the contact with a seemingly depopulated environment, as the Siberian, was instrumental in the further articulation of an anti-Malthusian interpretation of Darwinism. And in an even more crucial way at the time, this led to his loss of faith in the machinery of state when the purpose was to solve the real problems of the people.

However, the real catalyst from the political standpoint –as it was for many young people of his generation– was the Paris Commune (1871). After rejecting the post of secretary of the Imperial Geographical Society, he made a trip to Switzerland, where he sided resolutely in favour of anarchist socialism. Back from his short stay in Switzerland, he joined the famous Tchaikovsky populist circle until he was taken prisoner in 1874.

He escaped from prison in Russia two years later, seeking exile in Britain. Although he earned his living by means of such respectable activities as contributions in *Nature*, *The Times* or the *Encyclopaedia Britannica*, his new life as an anarchist agitator was far from over. In subsequent years, living variously in Britain, France and Switzerland, Kropotkin became an extraordinary revolutionary propagandist; his contribution being fundamental as much for the dissemination of libertarian communism as for the creation of a libertarian press of great theoretic inspiration.

This activity was suddenly and brusquely brought to a halt. In late 1882, he was arrested in Lyon. Unfortunately for the French authorities, the trial that followed his detention became formidable propaganda material on the libertarian platform². It also consolidated the romantic myth of «the prince who renounces the privileges of class to embrace the cause of the dispossessed» to the point that it generated a

² «The Lyon Trial» *Freedom Anarchist Fortnightly*, 44(2): 4-5; «The Trial of Socialists», *The Times*, 9, 10, 12 and 20 January 1883.



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wave of sympathy for the figure of Kropotkin on the other side of the Channel.

The years in prison had long lasting effects. For it happens to be in the prison of Clairvaux where he reads the work of Russian zoologist Karl Kessler Fiodorovic on mutual aid in evolution, decisive, as he himself confesses, in the formalization of his ideas. Moreover, his health, already weakened by the confinement in Russian prisons, deteriorates to the point of there being a fear for his life. In January 1886 he was released, although he was to become an invalid for life.

Upon his release, he went into exile in England. He established his residence in suburban London, putting an end to much of his illegal activity. There began, however, a theoretical activity of great depth. His suburban life, in any case, was far from completely anonymous. The romantic aura of the aristocrat who renounces his social class, combined with his reputation as a traveller and geographer, opened to him public doors; a thing far from common to an anarchist. Not only did Kropotkin publish his ideas in the libertarian press, but wrote regularly in journals of high impact in intellectual circles, such as *The Nineteenth Century*, the most acclaimed of the monthly reviews, of which he became Editor of the scientific section.

At the same time he participated in the activities of the Royal Geographical Society, becoming a member of the British Association for the Advancement of Science. The many years that he lived in England until his return to Russia in 1917 were years of quiet Victorian respectability, while maintaining a strong commitment to the cause of anarchism. It was undoubtedly the most fruitful period from the intellectual point of view, evolutionism included.

■ KROPOTKIN AGAINST THOMAS HUXLEY, AND BEYOND: «MUTUAL AID»

In effect, Kropotkin's interest in Darwinism dated back to very early times. His correspondence shows that in some ways he was putting the Darwinian Theory to the test in the context of Siberian nature in the early 1860s. His opinions in this respect, however, only appeared in print once he was exiled in Western Europe.

This was in 1882, and effectively in an obituary on Darwin which was published in the French libertarian press. The article was, in fact, a critique of the bourgeois use of Darwinism and contains some arguments that reappear later: that sociable species are the most prosperous; solidarity being the key factor in the survival of the species in their collective

life and death struggle against the hostile forces of nature. The text also reflects his debt to the vision the Russian zoologists had on this matter.

In 1887, in two articles published in *The Nineteenth Century* and in a context of great social tension in Great Britain, Kropotkin said that anarchism and the philosophy of evolution employed the same methods. However, he introduced an important nuance in his interpretation of it. On criticizing Herbert Spencer, he said that the Malthusian laws on population were false and that they contributed nothing to the theory of evolution. Following a similar path, Thomas Henry Huxley, the life-long champion of Darwin, was developing his own politico-scientific schema in a very different direction. In 1888, writing in the same publication, *The Nineteenth Century*, Huxley began to draw a portrait of nature as a set of processes, amoral and brutal, absolutely unable to provide any criterion on which to establish a foundation for moral Law.

That was Huxley's answer to both Spencer's evolutionary ethics and to his politically based ultra-liberalism. However, although his position is consistent with a new reformist liberalism that deemed necessary a certain level of state intervention, Huxley emphasized with equal force that the permanent presence of the Malthusian spectre and the persistence of primeval aggressive instincts imposed severe limits on key radical and revolutionary reform projects. This led Kropotkin to respond in a series of articles published in the journal between 1890 and 1896, and which were finally collected in a volume entitled *Mutual Aid: A Factor of Evolution*, published in 1902.

However, the target of *Mutual Aid: A Factor of Evolution* was not simply Huxley. Kropotkin launched into a criticism of what he saw as an entire school that used as a slogan the struggle for existence. The book was to become an attack on those disciples of Darwin who, in his view, only saw nature in its most brutal light. The anarchist prince recognized that the struggle

for existence –in the sense of real competition for food and space– did exist in the world of the living, but it was not easy for it to become really effective.

It was very rare that the threshold of an effective Malthusian fight among individuals for food would ever take place. By way of contrast, Kropotkin emphasized the predominant role of what he claimed Darwin had called «metaphorical struggle for existence», that is to say the collective struggle that species kept up in the face of hostile environmental conditions and against

other species. For him it was clear that the best weapon in that type of struggle was sociability. The fittest are those animals which acquire habits of mutual support.

On the other hand, for Kropotkin, the struggle between individuals of the same species cannot produce any kind of evolutionary progress, but the opposite. To set limits to Malthusian competition through mutual aid is the key to progressive evolution. Sociability, mutual support, these not only limit the conflict, but constitute a prerequisite for the development of higher faculties such as intelligence and morality.

This led him to another correlative conclusion. Kropotkin, unlike Huxley, thought that morality was founded in nature itself; there was no ethical process to set as objection to a supposedly amoral nature. Far from being a late development, a fruit of civilization, our moral sense was deeply rooted in our biological past: there are millions of years of evolution that speak from within our being.

«KROPOTKIN EMPHASIZED THE PREDOMINANT ROLE OF WHAT HE CLAIMED DARWIN HAD CALLED “METAPHORICAL STRUGGLE FOR EXISTENCE”, THAT IS TO SAY THE COLLECTIVE STRUGGLE THAT SPECIES KEPT UP IN THE FACE OF HOSTILE ENVIRONMENTAL CONDITIONS»



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■ FROM ETHICAL LAW TO NEO-LAMARCKISM

No wonder, then, that Kropotkin tried to develop the ethical point of view adopted in his *Mutual Aid*. In the period between 1890 and 1914 it began to appear to him to be an absolute necessity. The growing influence of the philosophy of Nietzsche –conspicuous even among the ranks of libertarian followers– as much as the re-armament that was clear to see in Catholicism

at the end of the century, emerged as new threats. In 1904 he published two articles in *The Nineteenth Century* aiming not only to avert the dangers, but to serve as the basis for what he proposed to be a finished work on morality based on evolutionary philosophy.

A new ethical code –to come, in his own words, to scythe the grass from under the feet of Christianity– in which the inspiring imprint of the Darwin of *The Origin of Man* emerges explicitly into view. However, Kropotkin soon encountered an obstacle in his traditional nemesis: Thomas Malthus. According to the Russian anarchist, biologists were reluctant to acknowledge *mutual support* as a main feature of animal life because they (the biologists) gave warning that this notion was in stark contradiction to the fierce struggle for life among individuals as necessarily follows from the Malthusian constraints of space and food.

This was the very foundation, they argued, of the Darwinian theory of evolution. Even when they were advised to bear in mind that Darwin in *The Descent of Man* had emphasized the key role of sociability and of sympathetic feelings in the preservation of species, these same naturalists were unable to reconcile this statement with the undoubted weight that Darwin and Alfred Russel Wallace assigned to the fighting between individuals in their theory of natural selection. Kropotkin took on board the existence of this contradiction. Malthusianism and the mastery of solidarity in the economy of nature were mutually exclusive.

Kropotkin tried to skirt round the obstacle by postulating a synthesis between Darwinism and Lamarckism in a series of articles published in *The Nineteenth Century* over the decade of 1910. A synthesis in which natural selection would be to a great extent swallowed up by the direct action of the environment over organisms, an environmental influence which would be transmitted to offspring through inheritance of acquired characteristics. To this end he tried to prove that, fundamentally, natural selection of variations produced by chance or accidentally could not account for progressive evolution, while the direct action of the environment transmitted hereditarily could indeed do so.

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A THING FAR FROM COMMON
TO AN ANARCHIST»

To further this end it was essential to demonstrate that the inheritance of acquired characteristics, far from being a technical impossibility, was beginning to enjoy some empirical basis. In fact, his endeavours in rehabilitating Lamarck led him to study in depth not only the work of modern neo-Lamarckian but also the strongly dissenting theories on heredity, very particularly that of August Weismann.

Perhaps for some, this late support for the neo-Lamarckian thesis, illustrates in the best way possible the extent to which Kropotkin is another case showing how extra-scientific concerns lead some great minds to fall into flawed reasoning. It relates to a way of seeing things not only in a simplistic way, but basically in an erroneous way; it is the result of an anachronism. Kropotkin's anarchism did not lead him to uphold peculiar ideas, but to defend approaches

widely shared by an important sector of the community of biologists of the times in which he lived.

Not only had criticism for the theories of Weismann become widespread in France and in Germany itself, it was Mendelism itself –to which Kropotkin had not attached particular importance– that was not considered a credible tool in explaining the global phenomenon of heredity. Something similar can be said of his theory of *mutual aid*. Anthropomorphism?

Certainly not greater than that of Darwin himself. In reality, Kropotkin's naivety does not cease to be a retrospective illusion. An illusion fuelled by the fact that both in science and politics he aligned himself on the side that ended up as the loser. It is possible that in a less sectarian time, both in science as in politics, we would get closer to evaluating his persona in other terms. Meanwhile, if one wishes to understand some of the post-Darwinian debates of the last decades of the nineteenth and early twentieth centuries, it is time to take Kropotkin seriously. ☺

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