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The natural selection of evolutionary theory. Darwinism in The Netherlands 1850–1900

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INTRODUCTION

Some 135 years ago a certain Mrs Laps, a respectable lower-middle-class lady with conventional opinions on life in general and particular views on the importance of decent behaviour, had organized a pleasant evening with her friends at her home in Amsterdam. She and her invited lady guests were chatting very cosily when her son, a schoolteacher, yielded to the temptations of displaying some advanced thinking. He challenged one of the ladies present to say what she 'really' was. After some beating about the bush he informed her that the real answer was that she was a 'mammal'. This striking solution to a fundamental question ruined the entire evening: a respectable lady was not an animal, let alone a mammal (Douwes Dekker [1862] 1907).

In this anecdote the well-known Dutch author Douwes Dekker presents us with an image of the devastating potential of that process which might be described as 'the biologising of our philosophy of life' (Bulhof 1988; De Negentiende Eeuw 1993). The publication of *The Origin of Species* by Charles Darwin in 1859 signified the intrusion of all that was green and growing into the domain of ideology and philosophy. The anecdote does much to capture this moment but at the same time illustrates some of the difficulties involved in analysing the reception of Darwin in The Netherlands, for in Dekker's little story Darwin's name was not mentioned. In all honesty, Dekker was to confess later in life he had never read him. As so often is the case in public life it was easier to hold distinctive views of the burning issue of the day if one was not overburdened with knowledge. Evolutionary theory was no exception to this rule. Nevertheless, it is still interesting to try to recreate the process by which Darwin was to gain such rapid acceptance in The Netherlands and explain why his work encountered no serious opposition. Essentially this was achieved by the softening, even sometimes the elimination, of the more disturbing elements of the theory. The evolution of Darwinism was thus subject to its own process of natural selection. The most striking result of this was that by the end of the 19th century it was to come to mean precisely the opposite of what it had originally meant.

After the publication of *The Origin of Species*, public debate focused on three clusters of factors. The first cluster revolved around the question of whether it was possible to

detect a process of evolution in nature: was there a regular process to which all natural phenomena were subject and, if so, where did it originate? Was there a plan majestically unfolding itself and, if there was, where was it heading? The second cluster was specifically concerned with mankind's place in the new order: was he just another part of the common process or had his intellectual and moral development—that is civilization itself—raised him out of the realms of nature, above the animal kingdom 'red in tooth and claw'? If this was not the case and humans were no more than upgraded animals where did this leave the idea of the human? What for instance, should one make of the soul? The third cluster of questions concentrated on the practical consequences for social life: suppose that Darwin was right and that evolution was driven by natural selection. Did that, therefore, not mean that the survivors would be those who most effectively followed the rules which in this instance must mean those who most single-mindedly pursued their own self-interest? Would that not fundamentally undermine our civilization? Could there be any point in restraining violent instincts; was there any future for Christian mercifulness?

The debate about Darwinism was almost never an academic exchange about concepts or the way small variations might generate new species. Right from the start the questions discussed were those fundamental to the nature of mankind and human society with inevitable implications for the realms of politics and philosophy. For these reasons it is quite understandable that many people in The Netherlands should have initially chosen to handle Darwin very carefully. The more clamorous converts, such as Ernst Haeckel in Germany, were immediately, and with good reason, treated with suspicion. However, if The Netherlands produced few zealous disciples nor did it generate many equivocal opponents. In so far as there was a battle over Darwin it was calm and orderly, not to say civilized. Naturally the Calvinists and Roman Catholics voiced their disagreement, but even they failed to mount a full-scale attack. Religious believers, for the most part, contented themselves with pointing out some technical difficulties, stressing the hypothetical character of the theory and suggesting that they would not be surprised if, in the long run, the whole thing was to be found to be erroneous (Smit 1980). Nevertheless, *The Origin of Species* was not put on the Index and the Calvinist leader Abraham Kuyper was to write at the turn of the century:

> Which of those amongst us who are still capable of enthusiasm, can disguise his continual delight at the intensity of the vision into the inner nature of the world which these [i.e. Darwinian] studies afford us (Kuyper 1899).

Religious believers were most concerned to warn of the dangers of raising Darwinism to a competing belief system, but more often than not they simply remained silent. This can be explained partially by the fact that their practical capacity to sustain an intellectual campaign was very limited. Universities in The Netherlands were dominated by the liberals. While many liberals were, of course, mainstream believers a fundamental tenet of their view of life was the separation of science and belief. Science must concern itself with everything which might be percieved through the human senses and could not be hampered by any restriction: science had to be entirely free. However, there was more to life than could be grasped by the senses. Science was unable to solve 'the riddles of nature'; the supernatural could only be known through the'observance of inner sensations' and this was the only way of attaining certainty about the existence of God. In general terms, then, most liberals were convinced that while scientific research might well be able to demonstrate aspects of order and harmony in nature,

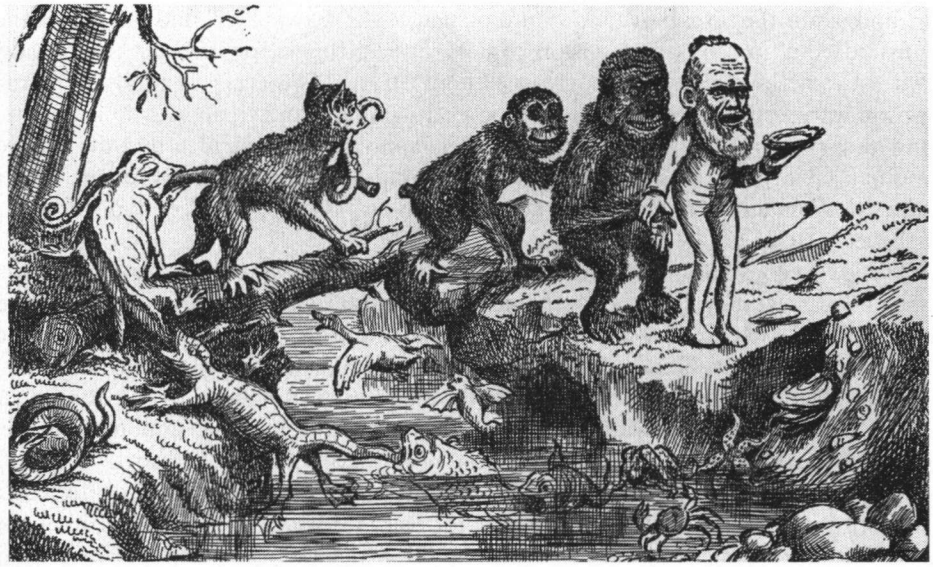

Fig. 7. A 19th century cartoon showing the course of evolution, culminating in Darwin himself.

the existence of order and harmony was a God-given mystery and was bound to remain so. By this mechanism of keeping things apart, a conflict between science and belief was rendered impossible. It was this strong philosophical tradition of 'dualism' which lay behind the relatively easy acceptance of Darwin in The Netherlands and which facilitated the rapid diffusion of the evolutionary way of thinking (Hegeman 1970).

PIETER HARTING AND THE DANGERS OF DARWINISM

This, however, should not lead us to the conclusion that liberals were indifferent to the implications of Darwinism. They were, in fact, to pay a good deal of attention to moderating the potential consequences. The methods used are well illustrated in the work of Pieter Harting, a biologist working at the University of Utrecht (Theunissen 1995). Before 1859 Harting had been a transformationist and quite willing to accept that the neck of the giraffe had grown longer so, as might be expected, he had some enthusiasm for Darwin's well-known explanation of such phenomena: 'the preservation of favoured races in the struggle for life, by means of natural selection'. None the less, this explanation still had two irritating implications for Harting. The first was that the theory did not make it possible to see in advance which direction the transformation was to take; it was only possible to establish afterwards which small variation had offered the decisive advantage in the struggle for life. Evolutionary theory might explain every step after the event but was absolutely incapable of predicting the next move. This implied the uncoupling of that traditional and reassuring idea of nature eternally developing towards richer and more differentiated levels according to plan. In other words, this was the end of teleology.

The second irritating implication was the undermining of Harting's strong conviction in the essential harmoniousness of a universe in which every creature had its place and function and all was in balance. On closer inspection nature was supposed to demonstrate

time and again the 'greatness and omnipotence of the Lawmaker' and his providence. In this peaceful and bloodless vision of nature the struggle for life had been brought down to something like 'no progress without effort'. The cruel methods of natural selection were kept out of sight; no scythe was swinging, and there was no question of dying or surviving, of eating or being eaten. The intrusion of the idea that the progress of human civilization was driven by a totally amoral process and, moreover, that all future developments would have to emerge in the same way was deeply disturbing to this belief system.

Harting faced a serious dilemma. He was convinced of the scientific value of Darwin's work but was afraid of its social and philosophical implications. It was thus entirely understandable that he should go to considerable lengths to bring the dangerous aspects of evolutionary theory under control. The first mechanism he devised was to make as firm and secure a distinction between hard facts and interesting hypotheses. By drawing this line he could give Darwin all the credit he deserved but at the same time make it possible to assert, in all conscience, that not all questions had been cleared up and for the time being it was better to maintain certain reservations. The second mechanism was simply, wherever possible, to avoid any further diffusion of this dangerous knowledge. This was somewhat problematical as Harting had a certain position in the popularization of scientific ideas, as editor since 1851 of the popular periodical, *Album der Natuur* [Album of Nature] (Coffeng 1994). In this journal the opponents of evolutionary theory held pride of place for some time and it was only very gradually that Harting began to familiarize his readers with the notion that the differences between man and animals were not essential—animals, to a degree, were also able to reason, to love and hate and, moreover, had a degree of sensitivity to beauty and a kind of self-consciousness. In a somewhat casual manner his readers were also informed that mankind was somewhat older than was said in the Bible. It seems that the open debate about evolutionary theory was postponed until Harting himself had fully assimilated the unpleasant elements of *The Origin of Species*. Then he began to speak of the earth in more sombre tones. We were apt to see it as 'a theatre of happiness' but experience taught us something else; the hapiness of one was only the consequence of the unhappiness of the other:

> What nature promised was not peace but war, not love but hate, not friendship but enmity, not rejoicing but suffering, not life but death. A gloomy image indeed, very different from the rosy picture of nature we love to imagine (Harting 1869).

Harting also began to apply this view to the human world as well as the animal kingdom, particularly after the outbreak of the Franco-Prussian War in 1870. At that time he gave a special lecture to his students in which he told them that 'no beast of prey was so devouring as mankind'; and yet, mustering up all his resolution, he still contrived to believe that in the long run harmony would triumph and lead to further progress. Did nature not demonstrate a continuous process of improvement? Evolution did indeed take a heavy toll but it did produce higher forms of life and, as far as people were concerned, higher levels of civilization. The process would never come to a halt: 'Becoming, development, evolution, progress, improvement, these are the watchwords of our times', he wrote in 1885. This quotation leads us to his third mechanism for controlling the darker sides of Darwinism. Harting assumed as a matter of fact that there was a line in the development of nature. Perhaps there was no plan; perhaps it

was impossible to be sure of a goal. In any event, overall and in general terms, there was a line in evolution that must continue to draw us uphill.

CONTROLLING THE DARKER SIDES

Such mechanisms to soften the Darwinian blow were not unique to Harting, but were much in use in wider liberal circles. The leading periodical of political, cultural and scientific liberalism in The Netherlands, *de Gids* [The Guide] was quick off the mark in discussing evolutionary theory; but while it did so seriously and thorougly, it did not do so often. It devoted little attention to the religious objections for, as was to be expected, it maintained a firm distinction between science and religion. Anthony Winkler Prins, the great encyclopaedist, scientist and Mennonite preacher, wrote in 1862 that science must studiously ignore all theological debate; having freed themselves from 'all philosophical speculation' scientists should calmly pursue their task of reducing 'the set of riddles' (Winkler Prins 1862). However, the liberals were not destined to get away with it as easily as this. In the 1870s the philosopher Spruyt started to publish fulsome warnings of the moral dangers of Darwinism: it must not be assumed, he argued, that what was most functional, biologically speaking, must inevitably be that which was most morally beneficial for human society. The most dangerous consequences would follow any attempt to use evolutionary theory to justify 'the most vulgar utilitarianism'. There were already people around who were willing to accept all the results of natural selection, almost as a principle:

> One step further and they will be extolling the advantages to society of killing the elderly, the disabled and the insane (Spruyt 1874).

From that time on several authors tried to loosen the connection between evolutionary theory and morality. If we were unable to do this, an article in *de Gids* in 1881 argued, human beings would be no more than spectators at the great unfolding of nature, passive tools of evolution and natural selection. As far as understanding the process went, such a stance might be satisfactory but the end result would be the loss of our humanity. A clear line had to be drawn:

> Man is above what we commonly refer to as nature. He has some understanding of the Better, the perfect. He is convinced that his moral character is not only a product of his past but is something for which he himself is responsible (Koekebakker 1881).

These cautionary comments also suggest that liberals were growing less comfortable with the theory. While they were not entirely pessimistic about the evolutionary process it was clearly no longer a thing of incontestable beauty (Aerts 1997). An unmistakeable sign of the changing times is the cautionary tale in *de Gids* in 1885, by the zoologist Hubrecht from the University of Utrecht, of how nature contains not only the dynamic of improvement but also that of downfall and degeneration. Why should we assume that human societies should be exempt from the second (Hubrecht 1885)? It was said very discreetly but behind it lay strong misgivings about the rise of socialism. Progress until that moment had been assumed to mean the increase and improvement in what was already there. Socialists, however, were beginning to claim that evolution would stop at nothing; society was on course for a radical reordering and in prospect was a new form of communal organization which did not look at all promising for mainstream

liberals (Aveling 1899). Around the turn of the century many pamphlets were being published in which it was 'scientifically' proven that the next stage of evolution would be the triumph of labour. This drove many middle-class intellectuals to a new ambivalence over evolutionary theory. On one hand they could try to deny that evolution could serve the proletarian end by insisting vigorously that it must lead to more differentiation and not, repeat *not*, the levelling of socialism (Hoffmann 1891); but on the other hand, they clung to the conviction that there was a certain order in nature and that in the long run all would turn out well.

This was, incidentally, very good for Darwin's reputation which had diminished somewhat in the scientific community as his weakness on hereditary mechanisms had become recognized (Clark 1984). In this respect the work of Hugo de Vries was of great importance, as it seemed to offer a new life for evolutionary theory and renewed significance for Darwin himself. Hubrecht expressed this as follows:

> He [De Vries] has led us into that promised land where evolution can be experimentally demonstrated; Darwin who guided our first footsteps like a new Moses was denied the final essential link in his argument. In a paradoxical way De Vries has given due honour to evolution yet at the same time restored the constancy of the species (Hubrecht 1902).

This was, of course, at odds with the concept of the fluidity of species, which for decades had been seen as Darwin's most important contribution; but De Vries himself was to perform an even cleverer trick. In 1909, on the occasion of the 50th anniversary of the publication of *The Origin of Species*, he wrote in *de Gids*:

> A great deal of our thinking rests on this work. Because of his mind we are able to see everywhere in nature that beautiful harmony which induces our unbounded awe. We owe to him our most honest insight into so many social questions and from his doctrine we draw that sense of ubiquitous and external progress which is the core of our endeavours (De Vries 1909).

Thus it had come full circle. After half a century of endeavour the savage elements of evolutionary theory had been tamed, progress and harmony had been wrested from 'tooth and claw' and Darwin had made his remarkable progress from wicked uncle to venerated prophet.

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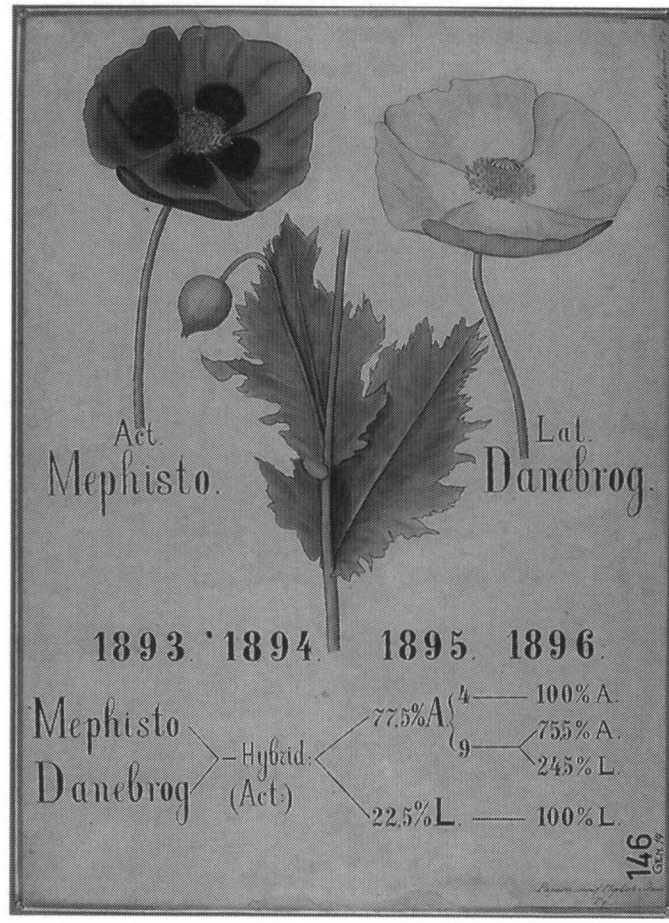

Fig. 8. Lecture plate used by De Vries to explain Mendelian segregation. The cross is *Papaver somniferum* 'Mephisto' with *P. somniferum* 'Danebrog' (University Museum De Agnietenkapel, University of Amsterdam).