

# Celebrating Lamarck

by

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Anniversaries, whether they celebrate an event twenty-five, fifty, or even a hundred or several hundreds years old, are notorious for lacking critical insight, being rather prone to extravagant superlatives than to sober recollection. Through the reconstruction of the activities and the more or less heroic image of the deceased, group-identities or national allegiances are reinforced, cultural traditions are enhanced or reconstituted : the praises of the past are sung with an enthusiasm that is in direct proportion to the temporal distance with the celebrated event. Clearly, this is a legitimate and frequent exercise, even if it teaches us more about the participants than the person thus honoured. The official celebrations of Lamarck, dating from the inauguration on 13 June 1909 of the famous monument still greeting visitors to the Muséum d'histoire naturelle, is no exception to the rule. What is remarkable, however, is the persistence of celebratory themes and clichés that the historical works on Lamarck – a flow of them has appeared over the last thirty years - have not managed significantly to modify. It could even be said that the historians of Lamarck are often led to admit the fruitlessness of their efforts to go beyond the myths and understand a scientist who, even today, still arouses sincere and even vehement passions.

The tone and accents of several Lamarckian celebrations were well established in 1909 by the then Director of the Muséum d'histoire naturelle, Edmond Perrier, in the speech he gave for the inauguration of the already mentioned monument erected in honour of Lamarck at the entry to the main avenue of the Parisian establishment. Perrier recalled that the biology of the two previous decades had been marked by heated debates between the partisans of different evolutionary doctrines. The act of justice that was being paid too late to Lamarck, the only and true founder of the theory of evolution, he continued, should not make people forget the obstacles that his work had to overcome,

not only abroad but even in his own country, and indeed in the very Institution where he worked:

"The work of Lamarck did not emerge in the midst of these battle-cries : almost all his contemporaries *ignored* it : if some bothered to read it, it was out of a feeling of ironic curiosity, in order to goad him with sarcasm ; the most indulgent considered his work as an *eccentricity* for which one had to excuse a *solitary scholar*, an *incorrigible dreamer*, because of his extremely detailed studies and the extraordinary number of species that he had named which were unknown before him. *This work of madness* was the deplorable shadow marring the halo of the one they thought they flattered by calling him the French Linnaeus."<sup>1</sup>

In the year 1909, another homage was rendered to Lamarck. It was the rich monograph published by Marcel Landrieu with the polemical title of *Lamarck. Le fondateur du transformisme. Sa vie, son oeuvre*, a reading still profitable today. From the first page of his study on, Landrieu opposed the fate of Lamarck to that of Darwin : whereas the English naturalist received "a large tribute of honour" while alive, Lamarck "died poor, blind and scorned" (p. 1). Through a kind of paradox, it was the success of Darwin's work that led to the re-discovery of the genius of Lamarck, until then forgotten and almost unknown, except to a few naturalists:

"... in 1859, with the publication of Darwin's *Origin of Species*, there was a dramatic turn of events. It led to a sudden rebirth of Lamarckian ideas. [...] Lamarck's doctrine thus underwent the usual test reserved to far too great discoveries: at first, more or less violent opposition, then silence and oblivion, and at last definitive rehabilitation ; today the battle has been won, and popularity is underway."<sup>2</sup>

Some years later, during the celebration of the first centenary of the death of Lamarck, the image of the naturalist took heroic if not saintly proportions. The fate of

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<sup>1</sup> E. Perrier, "Inauguration du monument à Jean-Baptiste de Lamarck", *Comptes rendus de l'Académie des Sciences*, 11, 1909, p. 4, cited by M. Vachon, "Lamarck classificateur", in his *L'évolution hier, aujourd'hui et demain. Actes du Colloque épistémologie de l'évolution*, Paris, 1982

<sup>2</sup>M. Landrieu, *Lamarck. Le fondateur du transformisme. Sa vie, son oeuvre*. Paris, 1909, p.8.

the bodily remains of Lamarck Landrieu piously but in vain had searched for at the cemetery of Montparnasse (they were probably dumped in one of the communal burial ditches of the city of Paris) inspired J. Constantin to draw a suggestive comparison with the sad events of the Great War :

"We see Lamarck like a secular saint, whose name evokes Spinoza, and who deserves, for the injustice of his fate during his life and just before his death, to be placed beside the unknown soldier who lies under the Arc de Triomphe. He was the unknown soldier of truth and, like many of the glorious victims of the last war, he has no tomb."<sup>3</sup>

With time, most of the participants who were present at several successive celebrations came to agree on the fact that Lamarck was the victim of a true conspiracy designed to keep him unknown, a fate he shared with others geniuses ahead of their time, fearlessly and intrepidly working for the future. On the occasion of the second centenary of the birth of Lamarck (1944), celebrated in 1946 because of the German occupation of Paris, it was again a director of the Muséum, Achille Urbain, who again formulated a long-lasting interpretative framework for the Lamarckian doctrine.

"During a period in which creationism was the basis of official science, such a theory of evolution could not be accepted, thus was it greeted with disdain and

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<sup>3</sup>J. Constantin, "Les derniers jours de Lamarck. Sa mort. Sa philosophie morale", in *Centenaire de Lamarck, Archives du Muséum national d'histoire naturelle*, VIème série, Vol. VI, 1930, pp. 5010, p. 10. René Jeannel "Lamarck, zoologiste et philosophe", in *Bicentenaire de J.-B. de Monet de Lamarck (1744 - 1829)*, Paris, Editions du Muséum, 1946, pp. 23-34, p. 23:

"From the publication of *Origin of Species* in 1859 onward, Darwin enjoyed the enthusiasm of a learned world of scholarship that was ready to receive the new doctrine. He was showered with honours and considered, justly, to be one of the greatest geniuses of humanity. Lamarck, on the other hand, lived in poverty, was despised by his entourage and devoted his meagre resources to printing his works, without being able to make people recognise their merit. And his miserable old age, spent in abject destitution, ended with ten years of total night, with his only moral support coming from his two daughters and some few friends. The work of Lamarck, which is as solidly based as that of Darwin, should have provoked the same enthusiasm. But it arrived too early, in a world that was not

neglected by almost all scholars. It was only long after his death that Lamarck was understood and honoured and that his brilliant conceptions brought him posthumous glory." <sup>4</sup>

At the 1946 conference the propositions of Achille Urbain were made even more explicit by Maurice Caullery, Honorary Professor of the Sorbonne, Member of the Institut and a veteran of the inauguration of the monument to Lamarck in 1909, on which occasion he had heard the speeches of Edmond Perrier and Yves Delage:

"Lamarck was ahead of his time, and he will always have the undying honour of having been the first to develop transformism in depth and to interpret the living world not as an aggregation of partial and arbitrary creations, but as progressive diversification, through the simple play of natural forces and simple initial forms [...] That he was the first to formulate this great idea, in the face of tradition and dogma, suffices to classify him amongst the greatest biologists and amongst the most audacious thinkers of all time. That same opposition that he encountered in his life provides a measure of the originality of his views."<sup>5</sup>

More recently Léon Szyfman joined the ranks of the conspiracy tradition, during the talk he gave at the conference organised by Yvette Conry at the University of Picardy on the occasion of the 150th anniversary of the death of Lamarck.

"The enemies of the theories of the French biologist tried, and even today continue to try to nullify their value, either by disfiguring them or by fighting them with silence.

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yet prepared to receive it. It was too openly in contradiction to Cuvier's work, whose glory and immense authority had little trouble extinguishing it and consigning it to oblivion".

<sup>4</sup> Achille Urbain, "La carrière et la vie de Lamarck (1744-1829)", in *Bicentenaire de J. - B. de Monet de Lamarck*, Op. cit. [cf. note 3], pp. 11-15, p. 11. Lamarck "can be considered as the founder of natural sciences as we conceive them. He was the first to envisage and defend the thesis that the living beings that surround us are neither fixed nor immutable, but, on the contrary, that they are the result of the transformation of fossil forms and that they themselves, in certain cases, can give rise to new forms".

<sup>5</sup> M. Caullery, "Le Lamarckisme à la lumière des connaissances actuelles", in *Bicentenaire de J.-B. de Lamarck*, Op. cit. [cf. note 3], pp. 35-44, p. 34.

However, these strategies have shown themselves to be ineffectual. The ideas of Lamarck have lost none of their attraction, and the assaults of time have not impinged upon their theoretical structure."<sup>6</sup>

As to those responsible for this long conspiracy, the agreement was and is, yet again, almost universal: Cuvier was the first to condemn the doctrines of his colleague to silence, followed by Darwin - whose intellectual honesty is frequently put in doubt - and, finally by the Anglo-American neo-Darwinians, who "treat Lamarck like a biologist barely superior to Bernardin de Saint-Pierre", according to Pierre-P. Grassé.<sup>7</sup>

The study of another theme frequently discussed during Lamarckian celebrations from 1909 onwards, highlights a very stimulating problem of interpretation, and provides a chance to identify the completely unexpected source of the myths that have grown around Lamarck to this time, and will probably keep on flourishing for long. If almost every speaker at various celebrations agreed that only Lamarck was worthy of being called "the founder of transformism", that his prophetic work appeared half a century ahead of its time and that only a creationist conspiracy could deprive him from his glory, there was a widespread disagreement concerning the interpretation of the whole of Lamarck's theoretical production. How should historians and scientists evaluate the physico-chemical works he published in the 1790s, the meteorological almanacs printed between 1799 and 1810 or the book and papers he wrote on geology? Even if the

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<sup>6</sup>L. Szyfman, "La révolution accomplie par Lamarck dans le sciences naturelles et philosophiques", in *Lamarck et son Temps. Lamarck et notre temps*, Paris, Vrin (1981), pp. 103-117, p. 103. L. Szyfman, *Jean-Baptiste Lamarck et son époque*, Masson, Paris, 1982 p. 53: "Everybody agrees that ideas and accomplishments of the scholar were half a century ahead of the science of his time".

<sup>7</sup> P.P. Grassé, "Introduction" to *Colloque International "Lamarck"*, Paris: Librairie Scientifique et Technique A. Blanchard 1971, pp. 3-10, p. 4. Among those who attended and were active in several successive celebrations of Lamarck, a few have taken pleasure in quoting from letters from Lyell to Darwin, where the English geologist, who had introduced transformist theories to the English public through his severe criticisms of Lamarck, declared that *The Origin of Species* had proved that the French scholar was finally right. Ernst Haeckel is often praised as a great evolutionary theorist who knew how to recognise the value of Lamarck: it is interesting to remark that the work of M. Landrieu, *Lamarck. Le fondateur du transformisme, sa vie, son oeuvre* (Paris, 1909 pp. 431-436), seems to be the source of all the quotations from Lyell, Darwin and Haeckel.

geological doctrines, or, more precisely, the hydrogeological doctrines, did not appear to pose insurmountable problems, as they could always be considered as forestalling Lyell's doctrine of actual causes<sup>8</sup>, Lamarck's chemistry and physics could not be defended..

Michel Landrieu, who for more than half a century has been the undisputed authority on Lamarck and is still an inexhaustible source of information about Lamarck and his work, had no doubts : "The physico-chemical theories are the perishable works of Lamarck and have only a retrospective and mainly psychological interest". And again, after having reproduced the summary that Lamarck himself gave of his *Mémoires de physique et d'histoire naturelle*, he concluded: "We will abstain from discussing such a theory: all that can be said is that even at the time at which it was published it was at least half a century behind the state of contemporary science"<sup>9</sup>. The judgement on his meteorological investigations is less categorical, but still severe :

"...his great error was that he wished to determine influences of an inextricable complexity by reasoning alone, where the most penetrating analysis and the most patient observation have not yet been able to shed, even a century later, the smallest light on the matter. [...] And he wished to draw these laws straight from the admirable reasoning machine that was his brain. As a convinced determinist, but more a synthesiser than an analyst, he plunged straight into the most absolute generalisations : which was one of the characteristic traits of his intellect anyway, and one that in other branches of science gave us several ideas of true genius"<sup>10</sup>.

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<sup>8</sup> See, among others, R. Jeannel, "Lamarck, zoologiste et philosophe", Loc. cit. [cf. note 3], pp. 24-25: "Apart from some absurd ideas about the cause of the tides and the folds in the terrestrial surface, the geological work of Lamarck is full of brilliant and prophetic ideas"

<sup>9</sup> M. Landrieu, Op. cit. [cf. note 2], pp. 151 and 161 and also pp. 2-3: "If we leave aside the physico-chemical lucubration of Lamarck, where he is violently opposed to Lavoisier and to conceptions born from modern chemistry; if one also neglects his efforts in meteorology and geology, so often criticised, but which contain nonetheless more than one idea of genius - we find an immense and rich output in botany, palaeontology, psychology and zoology". R. Jeannel, "Lamarck, zoologiste et philosophe", loc. cit. [cf. note 3, p. 24, "Lamarck also devoted his time to the problems posed by physics and chemistry. He was unfortunate in that he chose to attack the new theories of Lavoisier."]

<sup>10</sup> M. Landrieu, Op. cit. [cf. note 2], p. 161.

Although, during the 1946 conference, Achille Urbain saw nothing in meteorological works but the enunciation "of probabilities" and declared himself convinced that "it was an error on the part of Lamarck to publish such works, to bestow them the authority of his name and his reputation as a scholar", in 1930 M. Matout expressed a rather different opinion:

"Lamarck is too famous as a naturalist for his meteorological works to have attracted much attention ; people even avoided talking about them, it seems, because he failed on his attempt to predict the weather and his ideas on the subject were too audacious relatively to his time. Was it feared they would leave a shadow over the scientific reputation of the famous naturalist? A praiseworthy intention in itself, but one which had the result of allowing the sinking into oblivion of a magnificent revelation, which had to wait for the techniques achieved after a century of laborious research to be finally given its due recognition."<sup>11</sup>

Notwithstanding the differences of interpretation, it is interesting to note that almost all the quotations here reproduced have their uncritical origin in only one source, sometimes unknown to the authors themselves, who thought they were drawing their information from Landrieu. Indeed, studies published in the last two decades have proved that neither the myth of Lamarck's isolation nor that of his poverty stands up to close analysis. Lamarck was certainly criticised, but his work was also very well known in France and Europe, and was favourably cited by many contemporary naturalists and geologists in France, England, Italy, Russia, Belgium and Germany. The thesis of Lamarck's isolation can only be maintained if one ignores the rich (and still little studied) debates on natural history that took place between 1790 and 1859, or if one accepts Cuvier's funeral commemoration of Lamarck at face value. Cuvier had many reasons to dislike Lamarck, personal as well as scientific. On 24 December 1794, the older colleague prevented Cuvier from being given the minor position of assistant-naturalist : he had to wait until 1802 before reaching the position of full Professor at the Muséum. Cuvier also complained that Lamarck had appropriated his work on the

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<sup>11</sup> M. Matout, "Lamarck météorologiste", in *Centenaire de Lamarck*. Op. cit. [cf. note 3]. pp. 45-48, p. 48

anatomy of invertebrates, as the eulogy recounts in fine detail.<sup>12</sup> What is more, during the 1820s, a growing body of journal and dictionary articles, of books and public denunciations opposed Lamarck to the powerful Baron Cuvier as an exemplary model of scientific virtue and disinterest.<sup>13</sup>

Cuvier had several strategic and personal reasons to downplay the position occupied by Lamarck in contemporary institutional and amateur natural sciences : and yet, his stress on the total isolation of his opponent was uncritically endorsed by Lamarck's supporters and hagiographers. In other words, from Marcel Landrieu and Edmond Perrier onward, the highly personal reconstruction of Lamarck's work and career offered by Cuvier has been adopted and supported by friends and foes alike, and often by historians as well, which is more difficult to understand. This reconstruction has allowed commentators and historians to claim that the Parisian and European naturalist scene during the years 1790 - 1830 was dominated by a powerful group of "modern" scientists, more and more self-consciously promoting specialization and a professional approach to scientific practices, who barely tolerated a small group of scientific dreamers, whom nobody cared much about. Lamarck, according to Cuvier, "was in this respect like so many other loners, who have never had cause to doubt because they have never had the opportunity to be contradicted". The chemical, physical, geological and philosophical theories and, of course, the transformist doctrine, were part of the dreaming side of Lamarck, while his work on the classification of living and fossil invertebrates were worthy of a lasting fame : thanks to the anatomical support provided by Cuvier himself, of course.<sup>14</sup>

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<sup>12</sup>See for example Georges Cuvier, "Éloge de M. de Lamarck", *Mémoires de l'Académie Royale des Sciences de l'Institut de France*, 1835, XIII, pp. i-xxx, la n. 2, p. xxv: "In his *système des animaux sans vertèbres* of 1801, he adopted the class of crustaceans and created that of arachnids, as a result of some observations that had been communicated to him concerning the heart and pulmonary sacs of spiders. In 1802 in his *Recherches sur l'organisation des corps vivants*, he admitted the class of annelids, established, as he recognised on p. 24, on the basis of my observations on their circulatory organs and blood colour".

<sup>13</sup> P. Corsi, *The Age of Lamarck. Evolutionary Theories in France, 1790-1830*, Berkeley, University of California Press, 1989, ch. VII.

<sup>14</sup>G. Cuvier, loc. cit. [cf. note 12], pp. xxv-xxvi: "His anatomical knowledge made it difficult for him to have views of his own in this respect; it must even be said that the general distribution of animals



If we compare the excerpts from Perrier's speech quoted at the beginning of this paper with Cuvier's eulogy, we observe striking similarities. The comments by Landrieu concerning the physico-chemical and meteorological doctrines of Lamarck could also be examined in detail : there again we would find at work the influence of Cuvier, who, with his usual ease, had demolished that part of his colleague's work:

"He meditated on the general laws of physics and chemistry, on atmospheric phenomena, on the behaviour of living bodies, on the origin of the terrestrial globe and its revolutions. Psychology, even high metaphysics were not completely alien to him; and on all these subjects he had a wealth of clearly determined ideas, original from his point of view, as he had conceived them by the power of his head alone, but that he took to be equally original for the world, and above all, as certain and able to reform all the human sciences. [...] When he attempted to apply his system to [meteorological] phenomena that could be observed at close intervals ; he promptly had an opportunity to convince himself of the extent to which nature enjoys rebelling against *a priori* doctrines."<sup>15</sup>

Many of Cuvier's theses thus became commonplace : Lamarck the lonely thinker, devoted to the construction of *a priori* systems that nobody followed, and capable at the

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into apathetic, sensitive and intelligent, that he introduced towards the end of his method, was founded neither on organisation nor on exact observation of their faculties. But what belongs only to him [xvii], and will remain fundamental in all his later research, are the observations of shellfish and polyps, either hard or flexible : the wisdom with which he individuated and characterised their types, according to circumstances of form, proportion, surface and structure, chosen with judgement and easy to appreciate; The perseverance with which he compared and distinguished the species, fixed their synonymy, gave them detailed and clear descriptions, made each of his successive works the regulator of this part of natural history". But Cuvier, whose maliciousness knew no bounds, adds that this glory would have been more considerable if he had not lost time with his dreams: "How happy it would have been if he had been allowed to reach his pinnacle! But we have seen that he came late to zoology: from the first moment, in his studies of insects his weak eyes obliged him to rely on the kindness of our famous colleague M. Latreille, recognised by Europe as the master of this immense part of natural history...", p. xxviii.

same time of an immense work of classification admired by the scientific world. It could also be said that this "eulogy" has not always been read with the attention that it deserves and that we have ended up losing sight of important research clues that Cuvier provided in his text. For Cuvier, even if there were two Lamarcks, the dreamer and the sober classifier, it was nevertheless no simple task to separate the one from the other. The most "bizarre" theories, those that even Perrier and Landrieu condemned and declared to have nothing to do with the outstanding biological or botanical corpus of doctrines produced by Lamarck, for Cuvier finally constituted the essential and inseparable foundation of all his works:

"For twenty years he reproduced them in all forms, and even made them enter those of the works which seemed most alien to them: we are thus even more obliged to make them known, as without them some of his best writings would be unintelligible; the man himself could not be understood, for so much did he identify himself with his systems, did he wish to publicize them, to make them prevail, that they prevailed for him on all other matters, and made his greatest and most useful work seem to him as mere accessories to his high speculations."<sup>16</sup>

This phrase of Cuvier's contains the germs that have nourished a considerable part of contemporary research on Lamarck; however, it is important to point out that Cuvier has not been followed in his animosity against Lamarck, and that, on the contrary, historians have sought to understand the hidden force that animated his antipathy.<sup>17</sup>

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<sup>15</sup>G. Cuvier, loc. cit. [cf. note 12], p. xii-xiii and p. xxii.

<sup>16</sup>G. Cuvier, loc. cit. [cf. note 12], p. xiii.

<sup>17</sup>L. Burlingame, *Lamarck's Theory of Transformism in the Context of his views of Nature, 1776-1809*, PhD thesis, Ithaca, Cornell University Press, 1973; L. Jordanova, "The Natural Philosophy of Lamarck in its Historical Context", PhD thesis, Cambridge, University of Cambridge, 1976 and *Lamarck*, Oxford, Oxford University Press, 1984; R.W. Burkhardt, *The Spirit of System: Lamarck and Evolutionary Biology*, Cambridge, Harvard University Press, 1977; G. Barsanti, *Dalla storia naturale alla storia della natura. Saggio su Lamarck*, Milan, Feltrinelli 1979; P. Corsi, *Oltre il Mito. Lamarck e le scienze naturali del suo tempo*, Bologna, Il Mulino 1983, new edition, *The Age of Lamarck. Evolutionary Theories in France, 1790-1839*, Berkeley, University of California Press, 1989 and *Lamarck. Génèse et enjeux du transformisme*, Paris, CNRS Editions, 2001; G. Laurent,

Today, research appears to have abandoned the tone of celebration or denunciation in order to approach the Lamarck problem on historically acceptable terms.<sup>18</sup>

This examination of the limits of the celebrations of Lamarck must also evoke the dominant line of interpretation vigorously opposed to the myth of Lamarck as a precursor of Darwin, or contemporary evolutionist theories. An important series of studies on Darwin carried out in England, in the United States, but also, in a very original way, in France, has highlighted the epistemological and theoretical differences that separate the Darwinian doctrines from those of Lamarck.<sup>19</sup> As mentioned during this conference, some colleagues have not resisted the temptation to reverse the judgement passed by Perrier or Landrieu, and have concluded that Lamarck, rather than being ahead of his time, was really left behind by the new science, represented by Lavoisier, Cuvier and Haüy. In other terms, he was the last representative of the "roman philosophique" to apply himself to nature in order to extract its laws and unveil "its course".

I must admit that I experience a certain epistemological and personal unease with regard to explanatory categories that, by relying on common sense terms such as "behind" or "in advance", are reducing highly complex biographical and conceptual trajectories to the terminology of railway stations and airports. In other words, if we continue to simplify the complexity of the debates on the natural history/natural sciences dichotomy at the beginning of the nineteenth century to a Cuvierian monologue, or at best to a dialogue between deaf; if we keep asking ourselves whether Lamarck or Darwin was the real founder of transformism or evolutionism; or even if we

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*Paléontologie et évolution en France de Lamarck à Darwin*, Thèse de Doctorat d'Etat Paris, Université de Paris I, 1984.

<sup>18</sup> L. Szyfman's book, [cf. note 6], constitutes a remarkable example of the vitality of celebratory mood. Szyfman, like Burkhardt, Jordanova, Barsanti, Laurent and myself, accepts the Cuvierian thesis of a fundamental unity within Lamarckian thought, but with the goal of demonstrating that *all* of Lamarck's doctrines have found confirmation in contemporary science.

<sup>19</sup>C. Limoges, "L'économie naturelle et le principe de corrélation chez Cuvier et Darwin", in *Georges Cuvier. Journées d'études, Revue d'histoire des sciences*, 23, 1970, pp. 35-45, and the discussion which followed this presentation, *ibid.*, pp. 46-48; C. Limoges, *La sélection naturelle. Etude sur l'évolution d'un concept*, Paris P.U.F. 1971.

adhere to the more sophisticated position advanced by Michel Foucault, who claimed that it was Cuvier, rather than Lamarck, who laid the epistemological foundations for the work of Darwin<sup>20</sup>, we perpetuate the myths surrounding Lamarck, the science of his time, the biological sciences in general and evolutionism in particular.

I admit that a "historical" history of science, such as Jacques Roger wished for, offers little consolation to those who cherish heated discussions on universal epistemological or sociological categories; but perhaps it can provide philosophers and epistemologists with new material for reflection. Indeed, the provocative observation could be made that it would be very difficult to use univocal epistemological categories to describe the extremely diversified debates on evolution (using the word in the most conventional sense possible) that did run through the nineteenth century in various directions. This does not signify that there are no epistemological dimensions to elaborate upon, but simply that if a problem is reduced to a dialogue between two or three figures, by freezing debates endowed with a considerable historical mobility within an a-historical epistemological structure, the history of science risks to turn back once again into a repository of examples for the contemporary philosophical debate on science. The paradoxical result of many commemorative studies or epistemological analyses of Lamarck is that they lead us to conclude that he was neither ahead of his time nor behind the times, but *outside* time : Lamarck's own time was not yet or had already been.

As regards transformism, we now know that Lamarck was not the first to adopt this doctrine. Again, we do not have to rely on the teleology cherished by historians of ideas to reinforce this point. It is not necessary to write the history of evolutionary ideas from the Bible to the present - supposing it were possible or even useful to do so - as if there really was a transcendent Platonic set of eternal questions waiting their turn to be discussed. It is sufficient to read the texts published and discussed in the years 1795-1802, a period during which several naturalists (Bertrand, Lacépède, Patrin, Fortis, Cabanis, Faujas de Saint-Fond, Denys de Montfort, Delamétherie) considered it to be

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<sup>20</sup> M. Foucault, "La situation de Cuvier dans l'histoire de la biologie", in *Georges Cuvier. Journées d'études, Revue d'histoire des sciences*, 23, 1970, pp. 63-69; see also the discussion of Foucault's presentation, *ibid.*, pp. 70-92.

well established that species were deeply modified as a consequence of environmental changes over a long period of time.<sup>21</sup> Of course, for many of them the next question was to establish the extent and import of such changes, a question that continued to be debated well after the publication of *The Origin of Species*.

Should it be concluded that Lamarck, rather than being the isolated thinker hailed or vilified by a long historiographic tradition, was in fact a commentator among others, whose originality was simply the result of a polemical construction (and an auto-construction) destined to long-lasting success, or did it instead reside in the systematic way in which he elaborated themes that attracted the attention of his contemporaries? Yet again, it is impossible to give an univocal answer to this question without falling back into yesterday's and today's dogmatism. It is enough to recall here that a number of works have demonstrated that, by studying the period and institutions in which Lamarck lived, it is possible to attempt a more reliable reconstruction of his work and the influence his ideas exercised in the evolutionary debates of the first half of the nineteenth century. Lamarck as a thinker of his time is, for many of us, much more interesting than Lamarck as a prophet of Darwinism.

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<sup>21</sup> I have discussed the immediate context of the conversion of Lamarck to transformism in Ch. III of my *The Age of Lamarck* Op. cit. [cf. note 13]