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Augustin Augier's Botanical Tree: Transcripts and translations of two unknown sources

Nils Petter Hellström, Gilles André and Marc Philippe

Abstract

Augustin Augier's "Arbre botanique" (1801) is one of the earliest known family tree diagrams to represent the natural system. As such it is frequently cited in the literature on historical systematics, where it is generally framed as a precursor to later, evolutionary trees. While ignorance concerning the author's identity long complicated efforts at interpreting and placing his tree into context, in the course of our recent establishment of Augier's biography, we discovered two previously unknown writings in which Augier discussed the Botanical Tree: a letter he sent to the National Institute in Paris in 1801 and a serialized article he published in Valence in 1809. These texts shed considerable light on how its author intended the Botanical Tree to be used and help to clarify how genealogical metaphors could serve as classificatory resources before the rise of evolutionary theory—and from within an explicitly religious worldview.

Trees of natural order

Family trees have been privileged models and tools of natural order and classification at least since the publication of Charles Darwin's *On the Origin of Species* (1859). In addition, and in part due to their broader cultural resonance, trees have also become icons of evolutionism

(Gould 1997; Hellström 2011). Whereas using a family tree to represent the natural system was often treated as Darwin's invention, more recent scholarship has made it abundantly clear that trees and other genealogical figures were employed in natural classification long before 1859 (see, for example, Barsanti 1992; Ragan 2009; Tassy 2011; Gontier 2011; Hellström 2012; Pietsch 2012; Archibald 2014; for an early contribution, see Voss 1952).

Some of these early employments, such as Antoine Duchesne's (1766) *généalogie* of strawberries, Georges-Louis Leclerc de Buffon's (1749–1788) *tableau* of dog breeds and Jean-Baptiste de Lamarck's (1809) *tableau* representing the development and diversification of life forms over time, were temporal and genealogical in ways that can be compared to Darwin's (1859) diagram, or indeed to his earlier notebook sketches (reproduced in Barrett et al. 1987, pp. 177, 180; discussed in Hellström 2012, pp. 235–236). However, as the interest in historical trees and branching diagrams grew, and as knowledge about them accumulated, it became evident that tree metaphors also had been used to illustrate ideas about natural order that had no temporal or generational dimensions, for example in the works of Charles Bonnet (1764) and Peter Simon Pallas (1766). It also became clear that family tree diagrams with an explicit temporal dimension had been produced by outspoken anti-Darwinians, including Louis Agassiz (1833–1843) and Edward Hitchcock (1840; for Hitchcock's tree, see Archibald

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2009, 2014, pp. 69–76). All in all, the meanings invested in trees and other genealogical figures in historical systematics are far from self-evident; we cannot assume that trees have always served as models or illustrations of evolutionary history or processes, at least not before such uses were normalized by Darwin, Ernst Haeckel (1866, 1874) and other evolutionists of the late 19th century.

The Botanical Tree

Augustin Augier’s “Arbre botanique” (Botanical Tree; Fig. 1), a family tree diagram outlining the author’s system of botanical classification, is frequently cited and graphically reproduced in the historical literature on taxonomy and trees. On its first appearance, when published as a part of Augier’s treatise on natural classification, *Essai d’une Nouvelle Classification des Végétaux* (1801), it met with very limited success (Hellström et al. 2017, p. 44). In contrast, when it was re-discovered and re-publicized in 1983, almost two centuries later, it received considerable attention and was soon inscribed into the ancestral lineage of evolutionary trees, being framed as a premature, first indication of something yet to come; the re-discoverer of Augier’s tree, Peter F. Stevens (1983, p. 203), described it as “an example in miniature of some of the major changes that were shortly to transform early nineteenth [*sic*] century systematics,” and as being “by far the earliest example of its kind” (Stevens 1983, p. 210). At the outset of this second appearance, the Botanical Tree was thus framed in terms of changing paradigms and emergent evolutionism; Augier, wrote Stevens (1994, p. 188), “almost inadvertently stumbled on a new way of depicting natural relationships, as a tree.” While later accounts largely have echoed Stevens’ valuation of Augier’s tree (for example, Barsanti 1992, pp. 86–91; Pietsch 2012, pp. 2–3), some researchers have pushed the case further,

claiming that Augier’s tree represented an important step in the development of modern phylogenetics (Tassy 1991, pp. 17–18) or that it introduced time as a factor in taxonomy (Gontier 2011, unpaginated; Lecointre 2011, p. 11, 2015, p. 161).

Perhaps it followed from such claims that the author of the Botanical Tree would eventually be described as a “forward-thinking” naturalist, “[w]orking quietly in isolation, unaware of the earlier suggestions of Bonnet, Pallas, and Buffon [...] entirely original and well ahead of his time” (Pietsch 2012, pp. 2–3). In a similar vein, there has been speculation over what could have transpired if evolutionists such as Jean-Baptiste de Lamarck (1744–1829) or Darwin (1809–1882) had known about Augier’s taxonomical scheme. In contrast to Pietsch (2012, p. 2), who assured his readers that Lamarck “surely never saw Augier’s botanical tree,” and to Archibald (2014, p. 61), who less categorically said he believed that Lamarck did not know about it, in this article we introduce, transcribe and translate Augier’s previously unnoticed letter to the National Institute in Paris, which he most probably sent to accompany a copy of his then just printed taxonomical treatise. His treatise, as a result, was discussed at a meeting of the Institute attended by senior naturalists including not only Lamarck but also Antoine-Laurent de Jussieu (1748–1836), Georges Cuvier (1769–1832) and others. The importance of this letter cannot be underestimated, in so far as its documented reception demonstrates that Augier’s proposed scheme of natural classification—the family tree—was communicated to the most celebrated men of contemporary natural science. If the Botanical Tree did not meet with approval, it was not because Augier’s contemporaries did not know about it.

According to his own account, Augier (1801, pp. 1–2) had conceived of the Botanical Tree when trying to consolidate two major

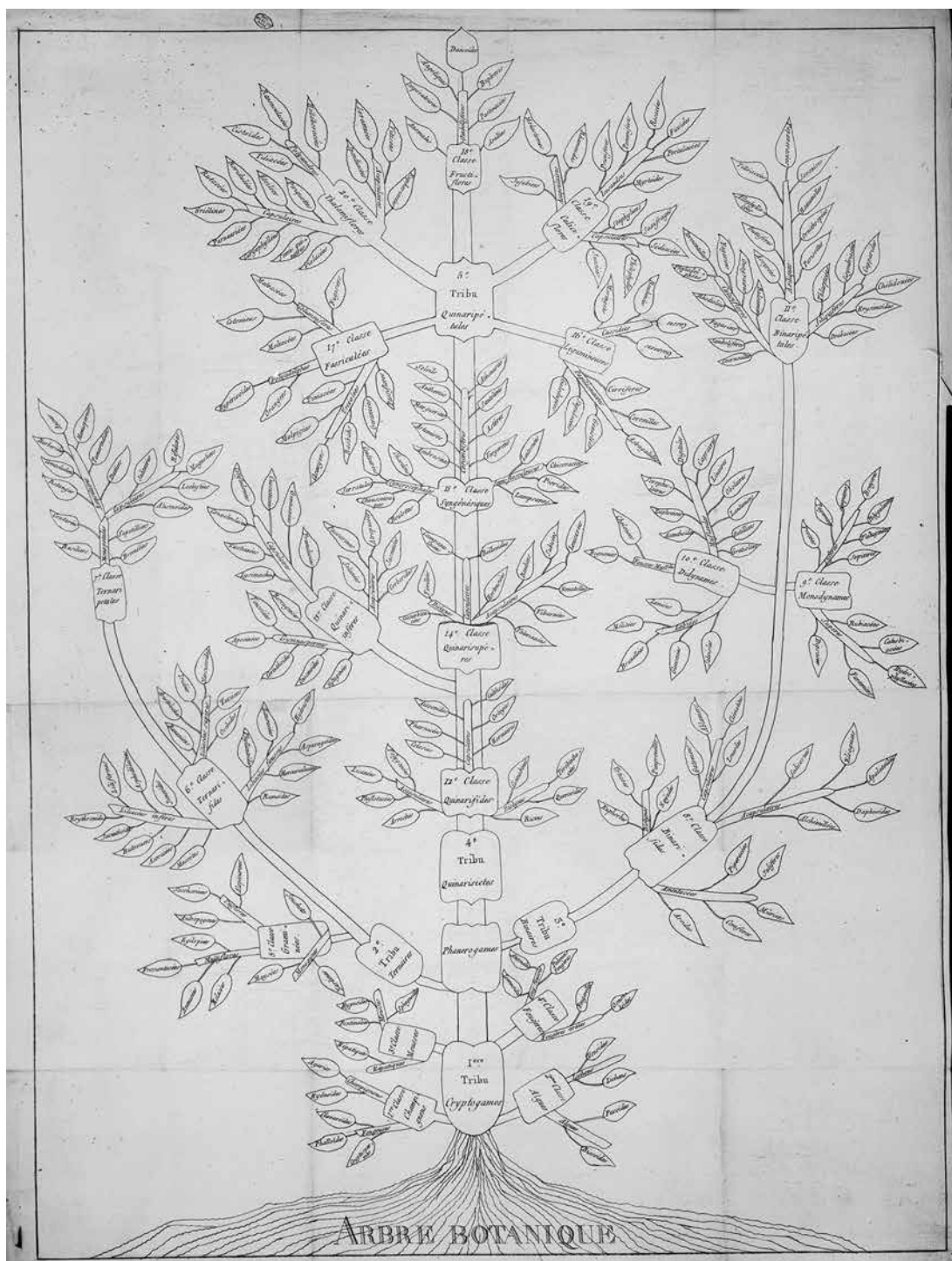


Figure 1. Augustin Augier's "Arbre botanique" (Botanical Tree), originally printed in grand folio, folded and bound into the author's treatise on natural classification, *Essai d'une Nouvelle Classification des Végétaux* (1801). Image © MNHN (Paris) – Direction des collections – Bibliothèque centrale.

enterprises in contemporary botany: to develop a practical method of plant classification and identification, while simultaneously making this classification natural, meaning that it would reflect inherent natural order and respect the “natural families” (*familles naturelles*) of plants as these were presumed to exist in nature, independently of human cognition. This was not so much the research program of Augier’s contemporaries, as it had been that of Carl Linnaeus (1707–1778) and his generation of naturalists. In the preface to his *Genera Plantarum* (1737), the Swedish naturalist wrote that a “natural method” (*methodus naturalis*) was to be preferred over his own sexual system, even as he dismissed all professedly natural methods available at that time as ridiculous.¹ In a pregnant passage in *Philosophia Botanica* (1751), in which Linnaeus first invoked that classical axiom of natural classification, that “nature makes no jumps” (*Natura non facit saltus*) and then compared the natural distribution of plants to the distribution of territories on a geographical map, he suggested that one way to approach such a natural method of plant classification would be by way of its “fragments” (*Fragmenta*), meaning such taxonomical groupings as were presumed to be objectively and naturally delineated, independently of human cognition.² By Augier’s time, the equivalent of Linnaeus’ fragments, and so the starting point for a natural method, were the natural families described by Jussieu and others, meaning such plant families whose integrity was considered to be indisputable.

In the preface to his book Augier described how he had initially tried but failed to arrange the natural families into a continuous series, a failure he characterized as “an operation similar to that of a man who would like to arrange all the branches of a tree in such a way as to form only one series.”³ The conclusion he drew from this experience was that plants were not arranged in a single series

but rather in several series united at the base, and consequently that, “[a] figure similar to that of a family tree, has seemed to me more appropriate to explain the order and gradation of the series or branches, which form the classes and the families.”⁴

Augier apparently remained convinced of his tree structure even when he received no or little encouragement from more established, contemporary naturalists. In any case he continued to strike comparisons between plant families and human families in the years following the publication of his treatise. Thus, in a previously unnoticed journal article from 1809, discussed in more detail below, Augier described how plant families were arranged in “ramifications” (*ramifications*), which “mark the relationships that the different families maintain between each other, even when moving away from the trunk, just as a family tree shows the order in which the different branches of one and the same family have emerged from the stem to which they owe their origin.”⁵

Because Augier’s explicit analogies between natural classification and human genealogy have been a source of considerable confusion and dispute, with scientists and scholars detecting, dismissing and debating various signs of temporality, proto-evolutionism or emergent epistemic shifts in his work, in this article we transcribe and translate in full Augier’s letter of 1801 as well as his journal article of 1809. When read alongside his book, and in order to illuminate his diagram, these texts significantly help to clarify Augier’s own understanding of the Botanical Tree.

Augustin Augier de Favas

Augier, as well as his editor and publisher, Jean-Marie Bruyset II (1744–1817), made considerable efforts to market his book. Apart from sending it to the National Institute in Paris and presenting it to the Athenaeum in Lyons (Hellström et al. 2017, p. 52), they also

had it publicized in a number of contemporary journals (Roux 1801, p. 290; Fleischer 1802, p. 267; Ersch 1797–1806, 5:18; cf. Quérard 1827–1864, 1:128). Despite their efforts, Augier’s work long remained neglected. Similarly, Augier’s person long remained elusive, even as attempts at his identification began more than a century ago (Magnin 1906, p. 109; Duval 1920, pp. 17–18; Hellström et al. 2017, pp. 44–45). In his capacity as a botanical author, Augier was sometimes listed in specialized indexes of botanists and botanical literature (Krüger 1841; Pritzel 1851, 1872; Jackson 1881; Rehder 1911–1918; Barnhart 1965; Stafleu and Mennega 1992); occasionally he was also included in the general biographical literature (Lobies et al. 1977). However, none of these works gave any information about his person, apart from his name as it was printed on the title page of his book; a few contemporary responses to his theories (notably, Candolle 1819, p. 74; Desvaux 1838–1839, 1:624–626) likewise included no information about his person. When Stevens (1983, p. 203) brought Augier’s *Botanical Tree* to the attention of a new generation of scientists and scholars, he stopped at describing its author as an “obscure scientist from Lyon” (Augier in fact was not from Lyons).

Augier’s obscurity long frustrated attempts at placing his work into context. However, following extensive archival research around France, we have recently been able to establish his identity. As we have made his biography available in more detail elsewhere (Hellström et al. 2017), in this article we will provide only a brief outline. Augier, baptized as François Augustin Marie Augier de Favas, was born in 1758 into an aristocratic, landowning family in Saint-Tropez, department of Var, France. Being the third son to survive childhood, he entered the *Société de l’Oratoire de Jésus et de Marie Immaculée*, a Catholic order, in 1776; he was ordained a priest of the Holy Roman Church in the summer of 1789, just

before the Revolution. Although Augier was officially granted the authority to exercise the priestly ministry on at least one occasion, we have found no evidence that he ever did so. Instead he spent most of his life teaching. Augier first taught at various institutions of the French Oratorians, including the college in Tournon, in the department of Ardèche, until at least 1795. From 1803 or earlier, he set up and directed his own boarding schools, first in Peyrins, then in nearby Saint-Donat, both in the department of Drôme. He died in Peyrins in 1825. All evidence considered, Augier’s life and career testify to a sincere interest in natural history, a lifelong dedication to teaching and unflinching loyalty to the Catholic Church.

The records of his teaching career suggest that Augier was a highly educated and literate man. This impression is further supported by our identification of another book written by him: a treatise on Latin instruction (Augier-Favas 1812). While this second book—like the first—was listed in some contemporary journals (for example, Beuchot 1812, p. 708) and occasionally noted by scholars (for example, Garneau 1910, p. 99; Chervel 2000, p. 62), bibliographers and biographers, both contemporary and modern, have rather treated the two books as authored by two different individuals (Quérard 1827–1864, 1:128; Chéron 1856–1859, 1:335, 337; Lobies et al. 1977, pp. 7471, 7472).

Whereas Augier’s book on language instruction does not fall within the scope of the present contribution, in the following we will introduce, transcribe and translate his two previously unknown writings on natural classification and the *Botanical Tree*. In light of the marked interest his taxonomical diagram has provoked, and the apparent difficulties in its interpretation, we wish to make these texts available to the international community of researchers. This being the primary goal of our present contribution, we will here refrain from any more sustained

commentary on their contents. We will publish a more comprehensive discussion of Augier's taxonomical theories—and the implications they have for the historiography of natural classification—in the near future.

Some notes on the transcripts and translations

In both transcripts and translations, we have attempted to keep as close as possible to Augier's original renditions. As for transcripts, this ambition has motivated us to maintain the author's use of minuscule and majuscule lettering, his orthography as well as his use or non-use of punctuation and accent marks, even when his uses are internally inconsistent, or when they stand in conflict with contemporary or present standards. As for translations, the same ambition has caused us to privilege such English words and expressions as lie etymologically close to the original French, even when these words and expressions were not customary in contemporary English works, or when they would not have been our own first choices if we were to communicate Augier's theory in our own words; in short, the reader will notice how the English translations sometimes have a French air to them. When translating the letter to the National Institute we have followed Augier's near to consistent use of minuscule lettering, except for the English *I* for *je*. In some cases, the punctuation in the translations deviates from that in the transcripts, in order to render the English more intelligible.

Two terms presented us with particular difficulties in the course of our translation. The French noun *marche* has other and richer connotations than the English *march*, including connotations of marching, walking and moving, of progressive, systematic work or development, as well as of smooth running or operation. In this article we have translated it variously as *method*, *development* and *course*,

depending on the context. The French adjective *tranchant*, used by Augier to qualify unequivocal and highly distinct characters or features, is related to the English noun *trench* and has connotations of a physical separation. Unable to find any English counterpart with similar meanings and connotations, in order to capture the sense of a clear-cut division between two mutually exclusive alternatives, in this article we have translated it as *decisive*.

Transcriptions and translations are published together because we want the reader to be able to review our work and make his or her own judgments. For the same reason of transparency, we have included photographs of Augier's manuscript letter to the National Institute.

Transcript and translation of a letter from A. Augier to the Institut National des Sciences et des Arts, dated 20 Pluviôse, year 9

A few days after the publication of his taxonomical treatise, *Essai d'une Nouvelle Classification des Végétaux* (Augier 1801), which contained the Botanical Tree diagram, Augier addressed himself to the Institut National des Sciences et des Arts in Paris. His letter (Figs. 2 and 3) was handled by the Institute's "first class" (*première classe*), the *de facto* continuation of the suppressed Académie Royale des Sciences. Four factors make us believe that Augier wrote the letter to accompany a copy of his newly printed book. First, the letter recapitulated the methodological axioms and inventions of Augier's book and also made it clear that a primary goal of his contacting the Institute was to introduce the Botanical Tree. Second, the letter was apparently signed in the workshop of Augier's editor and printer, Jean-Marie Bruyset II, and within days of the printing of his book. Third, in the letter Augier referred explicitly to the printing of "this work" (*cet ouvrage*). Fourth, a manuscript note in the top-left corner of the letter, apparently by Jean-

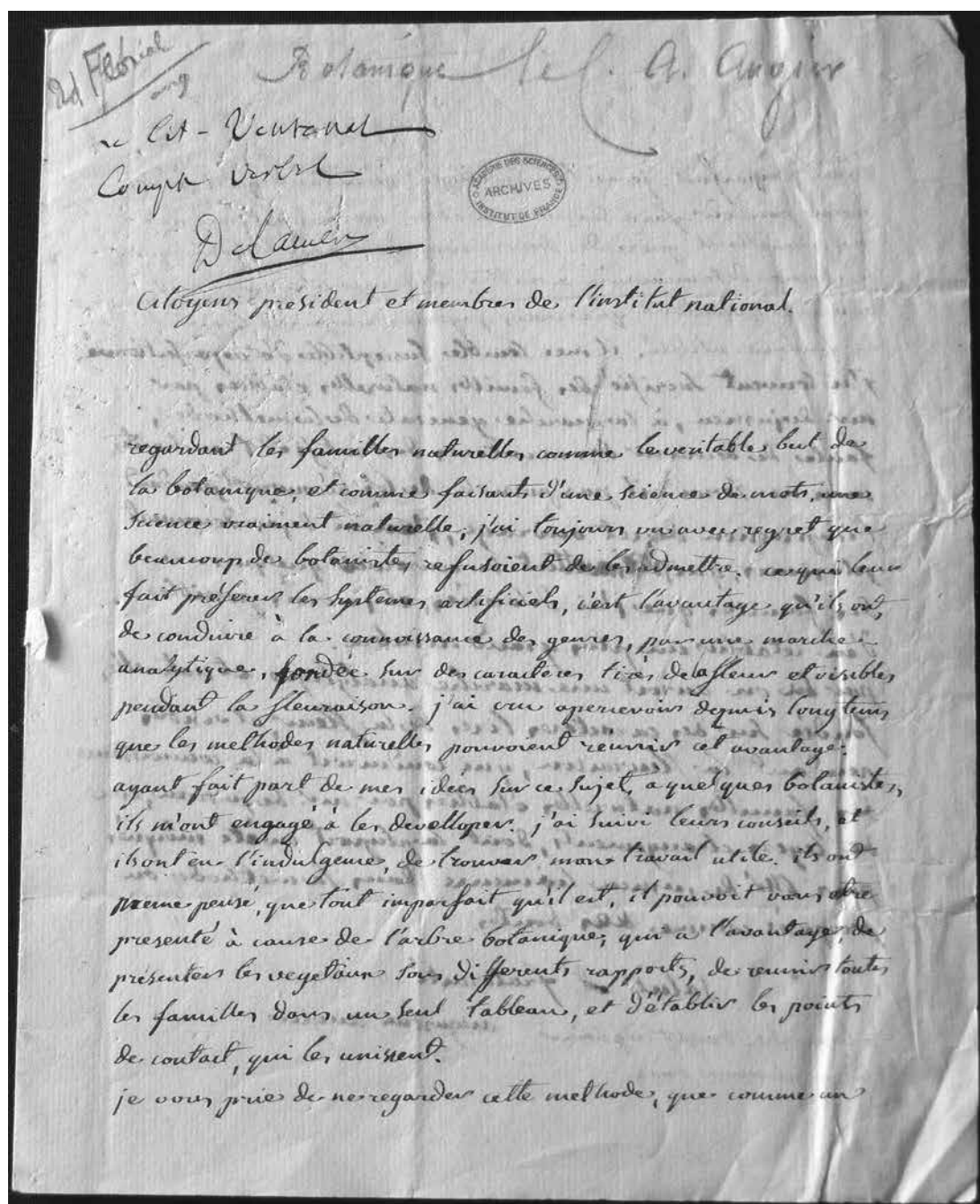


Figure 2. Front page of a letter from Augustin Augier to the Institut National des Sciences et des Arts in Paris, dated 20 Pluviôse, year 9 (9 February 1801). The note in the top left corner is apparently by Jean-Baptiste Joseph Delambre, then secretary of the mathematical sciences at the Institute. Image reproduced courtesy of the Académie des Sciences, Paris.

essai imparfait. je ne l'ai développé qu'autant qu'il falloit
pour pouvoir faire saisir mes idées. mes occupations ne
me permettant qu'une de suivre mon goût pour la botanique,
je ne me déterminerois à mettre la dernière main à cet
ouvrage qu'autant que vous jugeriez un pareil travail
de quelque utilité. il me semble susceptible d'être perfectionné.
j'ai souvent sacrifié des familles naturelles établies par
mr. de jussieu, à la marche générale de la méthode,
faute de pouvoir des caractères distinctifs et tranchants,
mais ne seroit-il pas possible de les découvrir? pendant
l'impression de cet ouvrage, j'en ai déjà découvert
plusieurs, qui permettent de conserver quelques unes
des familles que j'ai délaissées, et je crois possible
d'en rétablir un plus grand nombre.
par là on auroit une marche analytique et naturelle,
fondée sur des caractères tirés de la fleur, et visibles
pendant la fleuraison, qui conduiroit à la connaissance
des familles naturelles établies par mr. de jussieu, avec
de légers changements, dont la plupart ont été indiqués
par Mr. de jussieu lui-même dans sa méthode ou
proposés comme des doutes.

Salut & fraternité et respect.

à Lyon chez Bruyset imprimeur Augustin Augier
le 20 pluviôse an 9.

Figure 3. Back page of a letter from Augustin Augier to the Institut National des Sciences et des Arts in Paris, dated 20 Pluviôse, year 9 (9 February 1801). Augier apparently signed the letter in the office of his Lyons editor, Jean-Marie Bruyset II. Image reproduced courtesy of the Académie des Sciences, Paris.

Baptiste Joseph Delambre (1749–1822), then secretary of the mathematical sciences at the Institute, recorded that the botanist Étienne-Pierre Ventenat (1757–1808) had been charged with producing an “oral report” (*compte verbal*). This echoes the official protocols of the first class, of which Ventenat was a member, and which mentioned that Augier had sent a copy of his book to the Institute, and that Ventenat had been charged to produce precisely an oral report of it. Lamarck, Jussieu and Cuvier were amongst those present when Ventenat delivered his report on 1 Prairial, year 9 (21 May 1801; Académie des Sciences 1910–1922, 2:344–345, 348–349; Hellström et al. 2017, pp. 50–52). Unfortunately, we have not been able to locate any surviving records of what Ventenat said.

The library of the Institut de France (the continuation of the Institut National des Sciences et des Arts) presently holds two copies of Augier’s book. The stamp and register entry of the first entered copy (8°M/874) indicates that it dates from the earliest period of the library, and it well may be the same copy as Augier sent together with his letter. The book, however, contains no writing that can be attributed to Ventenat.

Augier’s letter consists of one sheet with writing on both sides. A second sheet has the addressee and address written onto it; it has likely served as an envelope. The letter is presently conserved at the Archives de l’Académie des Sciences, Paris, in the folder for the session of 21 Floréal, year 9 (11 May 1801).

Transcript	Translation
[address]	
au citoyen président de l’institut national. a paris	to the citizen president of the national institute. in paris
[manuscript note in top left corner]	
Le Cit[oien]- Ventenat Compte verbal Delambre	Citizen Ventenat Oral report Delambre
[letter]	
citoyens president et membres de l’institut national.	citizens president and members of the national institute.
regardant les familles naturelles comme le veritable but de la botanique, et comme faisant d’une science de mots, une science vraiment naturelle, j’ai toujours vu avec regret que beaucoup de botanistes refusoient de les admettre. ce qui leur fait préférer les systemes artificiels, c’est l’avantage qu’ils ont, de conduire à la connoissance des genres, par une marche analytique, fondée sur des caracteres tirés de la fleur et visibles pendant la	regarding natural families as the true goal of botany, and as making of a science of words, a truly natural science, ⁶ I have always noted with regret that many botanists refuse to accept them. that which makes them prefer artificial systems, is the advantage they have of leading to the knowledge of genera by way of an analytical method, founded upon characters ⁷ drawn from the flower and visible during florescence. for a long time I have

fleuraison. j'ai cru apercevoir depuis longtemps que les méthodes naturelles pouvoient réunir cet avantage : ayant fait part de mes idées sur ce sujet à quelques botanistes, ils m'ont engagé à les développer. j'ai suivi leurs conseils, et ils ont eu l'indulgence, de trouver mon travail utile. ils ont même pensé, que tout imparfait qu'il est, il pouvoit vous être présenté à cause de l'arbre botanique, qui a l'avantage, de présenter les végétaux sous différents rapports, de réunir toutes les familles dans un seul tableau, et d'établir les points de contact, qui les unissent.

je vous prie de ne regarder cette méthode, que comme un essai imparfait. je ne l'ai développée qu'autant qu'il falloit pour pouvoir faire saisir mon idée. mes occupations ne me permettant guère de suivre mon goût pour la botanique, je ne me déterminerois à mettre la dernière main à cet ouvrage qu'autant que vous jugeriez un pareil travail de quelque utilité. il me semble susceptible d'être perfectionné. j'ai souvent sacrifié des familles naturelles établies par mr. de jussieu, à la marche générale de la méthode, faute de découvrir des caractères distinctifs et tranchants mais ne seroit-il pas possible de les découvrir? pendant l'impression de cet ouvrage, j'en ai déjà découvert plusieurs, qui permettent de conserver quelques unes des familles que j'ai dilacérées, et je crois possible d'en rétablir un plus grand nombre.

par là on auroit une marche analytique et naturelle, fondée sur des caractères tirés de la fleur, et visibles pendant la fleuraison, qui conduiroit à la connoissance des familles naturelles établies par mr. de jussieu, avec de légers changements, dont la plupart ont été indiqués par Mr. de jussieu lui même dans sa méthode ou proposés comme des doutes.

salut fraternité et respect.
augustin augier

à lyon chez bruyset imprimeurs
le 20. pluviose an 9.

thought I could see how natural methods could incorporate this advantage; having shared my ideas on this subject with some botanists, they encouraged me to develop them. I followed their advice, and they had the indulgence to find my work useful. they even thought that, quite imperfect as it is, it could be presented to you because of the botanical tree, which has the advantage of presenting plants under different relationships, of uniting all families in a single table,⁸ and of establishing the points of contact that unite them.

I beg you to regard this method only as an imperfect attempt. I have only developed it enough to enable my idea to be grasped. my occupations hardly allow me to pursue my taste for botany, I would decide to put the finishing touch to this work only if you were to judge such a work of some use.⁹ it seems to me that it could be improved. for the general development of the method, I have often sacrificed the natural families established by mr de jussieu, when unable to discover any distinctive and decisive characters, but would it not be possible to discover them? already during the printing of this work, I discovered several, which makes it possible to preserve some of the families that I tore apart, and I believe it is possible to re-establish an even greater number.

thus one would have an analytical and natural method, based on characters drawn from the flower and visible during flowering, which would lead to knowledge of the natural families established by mr de jussieu, with slight changes, the majority of which have been indicated by Mr de jussieu himself in his method or put forward as doubts.

greeting fraternity and respect.
augustin augier

in lyons, at the bruyset printers
20 pluviose year 9.

Transcript and translation of a serialized article on natural classification by A. Augier-Favas, published in four installments in the *Journal de la Drôme* in 1809

Augier resided in the Drôme from at least 1803. Drawing on his long experience as a teacher, he established and ran boarding schools both in Peyrins and nearby Saint-Donat, and he also sat on the local council in Peyrins (Hellström et al. 2017, pp. 52–53). In 1809 he published a four-part article in the *Journal de la Drôme*, a local journal with republican allegiances, dedicated to administrative, political and literary affairs (Fig. 4). Augier built his argument from the axiomatic assumption that the organization of nature “makes no leaps” (Augier-Favas 1809, 2:2). The article is clearly written with the general, educated reader in mind. It reads like a popular scientific account and is saturated with metaphors and analogies meant to illustrate the argument. Apart from the conventional analogies of the field and time (*kingdoms* and *families*, the *course* of nature, the *chain of being*), Augier unconventionally compared the shape of the natural system not only to a family tree but also to a “radiate flower.” On Augier’s argument, “[r]adiate flowers appear as it were as the abridgment and type of the natural

order of plants, since the shape that plants form when arranged according to their botanical relationships, perfectly resembles them.” The section headed *DE L'ARBRE BOTANIQUE* even culminated in a description of a “universal flower” (Augier-Favas 1809, 60:3).

Contrary to many later employments of trees in natural classification, it is clear from Augier’s own words that shape, rather than genealogy or chronology, was at stake when comparing the natural system to a family tree. Augier’s interest was not in phylogeny or time, but rather in shape, symmetry and beauty. In his understanding, natural taxa were organized in a “very symmetrical and admirable order” (Augier-Favas 1809, 2:3), thus constituting “a whole, which offers an order admirable for its beauty and simplicity” (Augier-Favas 1809, 60:2). This whole, a tree, was characterized as “extremely regular” (Augier-Favas 1809, 60:3).

Augier’s article appeared under the miscellanea section. The first three parts appeared on 7, 14 and 21 January 1809, the fourth and concluding part, including the description of the “Arbre botanique,” was published on 29 July. The author was described as “Mr AUGIER-FAVAS, former professor of natural history at the College of Tournon.”

The original print matter was consulted in the Archives Départementales de la Drôme, Valence.

Transcript	Translation
<i>Part 1 (7 January)</i> Observations sur l’ordre naturel des végétaux, par M. AUGIER-FAVAS, ex-professeur d’histoire naturelle au collège de Tournon. DE L’ENCHAINEMENT DES ÊTRES EN GÉNÉRAL. Premier extrait.	Observations regarding the natural order of plants, by Mr AUGIER-FAVAS, former professor of natural history at the College of Tournon. ON THE ENCHAINMENT OF BEINGS IN GENERAL. First extract.

Tout se touche dans la nature, elle ne fait point de sauts, c'est-à-dire, que les différentes classes des êtres sont réunies entr'elles par des individus qui participent aux caractères de plusieurs classes différentes, sans en avoir absolument tous les caractères, et qui semblent en former le lien ; de sorte qu'on peut disposer et suivre les différentes classes des êtres, de manière à passer de l'une à l'autre par des individus qui ne diffèrent les uns des autres, que par des différences fort légères : ainsi, chaque individu forme un des chaînons de la chaîne générale. Cet enchaînement existe depuis le minéral le plus brute, jusqu'aux êtres les plus parfaitement organisés.

Cette idée a pu être regardée comme une idée philosophique, lorsque l'histoire naturelle n'était qu'imparfaitement connue ; mais maintenant que la découverte d'une infinité d'individus a fait connaître un plus grand nombre de chaînons de la chaîne générale, cette idée est devenue une vérité évidente et puisée dans la nature. Plusieurs fameux naturalistes en ont paru persuadés autrefois, et il n'est pas étonnant que cette idée ait paru évidente à de grands génies, avant qu'on ait pu la rendre sensible à tous les yeux. Personne ne peut maintenant se refuser à son évidence.

Les différentes classes des êtres ne forment pas une série continue qu'on puisse disposer sur une seule ligne. Si cela était, il y aurait longtemps que la marche de la nature serait connue. Les différentes classes et familles forment des groupes très-distincts, et disposés entr'eux dans un ordre très-symétrique et admirable ; elles ont seulement des points d'attouchement entr'elles. Ces points d'attouchement sont formés par de petits groupes d'êtres, moins considérables que les familles. Ces groupes sont composés d'individus qui, n'ayant pas parfaitement les caractères des classes et des familles qu'ils réunissent, ont été considérés comme moins parfaits que les autres.

Everything in nature is connected, she¹⁰ makes no leaps,¹¹ which is to say that the different classes of beings are joined together by individuals that share the characters of several different classes, without having absolutely all the characters [of any one], and which seem to form the link [between them]; so that one can arrange and follow the different classes of beings, in such a way as to pass from one to another by means of individuals that do not differ from each other except by very slight differences; thus, each individual forms one of the links of the general chain. This enchainment exists from the most brute mineral to the most perfectly organized beings.

This idea could be regarded as a philosophical idea, as long as natural history was only imperfectly known; but now that the discovery of an infinity of individuals has made known a greater number of links in the general chain, this idea has become an evident truth, drawn from nature. Several famous naturalists seem to have been convinced of it of the past, and it is not surprising that this idea seemed evident to the great geniuses, before one could render it perceptible to all eyes. Nowadays there is no one who can deny its evident truth.

The different classes of beings do not form a continuous series that one could arrange along a single line. Had that been the case, the course of nature would have been known since a long time. The different classes and families form very distinct groups, arranged in a very symmetrical and admirable order with respect to one another; they have only points of contact¹² between each other. These points of contact are formed by small groups of beings, less important than the families. These groups are composed of individuals that, not fully having the characters of the classes and families that they join together, have been considered as less perfect than the others.

Cela vient de ce que l'attention s'est portée d'abord sur les grandes classes, ensuite sur les grandes familles. Les êtres qui forment les petits groupes qui les unissent, quoique participant aux caractères de ces familles, ont paru moins parfaits, parce qu'ils manquent de quelques-uns des caractères propres aux différentes familles, ou les ont d'une manière moins sensible.

C'est ainsi que les chauves-souris, quoique tenant par plusieurs caractères aux oiseaux et aux quadrupèdes, et formant le lien qui unit ces deux classes, ne sont cependant, ni des quadrupèdes, ni des oiseaux parfaits, quoiqu'elles soient des animaux aussi parfaits dans leur genre que les autres. C'est ainsi que les joncs, qui font la nuance entre les graminées et les liliacées, peuvent être regardés comme des liliacées ou des graminées imparfaits. Les bamboux, qui font le passage des graminées aux palmiers, paroissent des graminées monstrueux.

Part 2 (14 January)

Observations sur l'ordre naturel des végétaux, par M. AUGIER-FAVAS, ex-professeur d'histoire naturelle au collège de Tournon.

DU POINT DE CONTACT DES TROIS RÈGNES.

Deuxième extrait.

Les animaux zoophytes paraissent former le centre ou point de réunion des trois règnes. Ceux qui sont doués de quelque mouvement, touchent au règne animal ; ceux qui ont la substance des minéraux, touchent au règne minéral ; et ceux qui sont d'une substance gélatineuse ou fibreuse comme les éponges, touchent au règne végétal, sur - tout aux plantes silamenteuses ou gélatineuses sans fleur ni graine, comme le tremella, le bissus et le conferva.

This comes from the fact that attention was first paid to the great classes, then to the great families. The beings that form the small groups that unite them have seemed less perfect, although sharing the characters of these families, because they lack some of the characters proper to the different families, or possess them in a less perceptible way.

This is why bats, although having several characters of [both] birds and quadrupeds, and [while] forming the link that unites these two classes, are nevertheless neither perfect quadrupeds nor perfect birds, although they may be animals just as perfect in their own genus as the others. This is why rushes, which make the nuance between Gramineae and Liliaceae, can be regarded as [both] imperfect Liliaceae or Gramineae. Bamboos, which make the transition from Gramineae to palms, appear like monstrous Gramineae.

Observations regarding the natural order of plants, by Mr AUGIER-FAVAS, former professor of natural history at the College of Tournon.

ON THE POINT OF CONTACT BETWEEN THE THREE KINGDOMS.

Second extract.

Zoophyte animals seem to form the center or meeting point of the three kingdoms.¹³ Those that are endowed with some movement are connected to the animal kingdom; those that have the substance of minerals are connected to the mineral kingdom; and those that are of gelatinous or fibrous substance, such as sponges, are connected to the plant kingdom, above all to the filamentous or gelatinous plants without flower or seed, such as tremella, byssus and conferva.

Ces trois genres ont tant de rapport avec les animaux zoophytes, que Tournefort, qui a regardé les animaux zoophytes comme des plantes, les a réunis avec ces trois genres. D'autres naturalistes, tant anciens que modernes, ont regardé ces plantes comme des animaux zoophytes. Quoi qu'il en soit de cette opinion, il n'en est pas moins vrai que ces trois genres font le passage des animaux zoophytes aux végétaux : c'est aussi ce groupe qui unit la famille des fongueuses aux algues ; qui font les deux familles de plantes, qui ont le plus de rapport avec les animaux zoophytes, ainsi que l'observe M. de Jussieu.

Je crois qu'on doit les regarder comme des plantes microscopiques, nichées dans des substances végétales, de même que les zoophytes, sont des animaux microscopiques, nichés dans des substances fibreuses ou minérales. Ces plantes et ces animaux microscopiques, étant réduits presque aux organes nécessaires à la reproduction de l'espèce, doivent très-peu différer entr'eux : car les organes sexuels sont les organes par lesquels les végétaux se rapprochent le plus du règne animal, parce que la nature suit les mêmes procédés dans la reproduction des végétaux que dans celle des animaux.

Part 3 (21 January)

Observations sur l'ordre naturel des végétaux, par M. AUGIER, ex-professeur d'histoire naturelle au collège de Tournon.

DE L'ENCHAINEMENT DES VÉGÉTAUX.
Troisième extrait.

Quoique tout se touche dans la nature, et qu'elle ait uni intimément toutes les familles de plantes par des groupes intermédiaires, qui en forment le lien, de manière que l'on passe d'une famille à l'autre par des nuances

These three genera have such a close relationship with zoophyte animals that Tournefort, who regarded zoophyte animals as plants, joined them to these three genera. Other naturalists, both ancient and modern, have regarded these plants as zoophyte animals. Whatever may be the case regarding this opinion, it is no less true that these three genera make the transition from zoophyte animals to plants; it is also this group that unites the family of fungi to the algae, which constitute the two plant families that have the closest relationship with zoophyte animals, as Mr de Jussieu observes.

I believe one ought to regard them as microscopic plants, nested in plant substances, just as zoophytes are microscopic animals, nested in fibrous or mineral substances. These microscopic plants and animals, being virtually reduced to the organs necessary for the reproduction of the species, must differ very little from one another; for the sexual organs are the organs in which plants most closely approach the animal kingdom, because nature follows the same procedures in the reproduction of plants as in that of animals.

Observations regarding the natural order of plants, by Mr AUGIER, former professor of natural history at the College of Tournon.

ON THE ENCHAINMENT OF PLANTS.
Third extract.

Although everything is connected in nature, and although she has closely united all plant families by means of intermediary groups, which form the link [between them], in such a way that one passes from one family to another

presque insensibles, cela n'empêche pas qu'il n'existe des ordres, des classes, des familles, des groupes, et des genres bien distincts. Tout de même, qu'on distingue très-bien, les différentes couleurs de l'arc-en-ciel, quoiqu'il soit assez difficile d'établir une ligne de démarcation entr'elles.

Ce que j'appelle groupe, sont les divisions les plus marquées dans la nature, quoique encore peu distinguées par les botanistes. Sans eux, l'on ne peut pas se former une idée de l'ordre naturel, ils répondent aux grands genres de Linné, qui sont très-nombreux en espèces. Comme les euphorbes, les centaurees, les polygonées et les géraniees, qui renferment plusieurs des genres de Tournefort. Tous les autres genres peu nombreux en espèces, doivent aussi être réunis en groupes. En rapprochant les groupes d'après leurs rapports naturels, on trouve que les familles sont composées de trois ou quatre groupes réguliers, c'est-à-dire, qu'ils ont tous de grands rapports, et un air de famille qui les rapproche entr'eux et les distingue des autres. C'est ainsi que les liliacées renferment quatre groupes, les lys, les jacinthes, les asphadèles et les ornigals.

Entre chaque famille, viennent se placer naturellement des groupes intermédiaires, dont les fleurs paraissent irrégulières, parce qu'étant placées entre différentes familles dont ils forment le passage, ils participent aux caractères des unes et des autres. Cette combinaison de caractères différens leur donne un air qui étonne par sa singularité, et rend ces plantes difficiles à classer, comme les passiflores, les aristoloches, les valérianes, etc.

Ce sont ces plantes qui, dans la plupart des systèmes, font disparaître les lignes de démarcation, qu'on s'efforce d'établir entre les classes et les familles, ou causent des aberrations.

Dans le système de la nature, ces groupes, quoique établissant des nuances bien ménagées entre les familles qu'ils unissent, loin de

by means of nearly imperceptible nuances, this does not preclude the existence of clearly distinct orders, classes, families, groups and genera. In the same way, one distinguishes very clearly the different colors of the rainbow, although it would be rather difficult to establish a line of demarcation between them.

What I call group are the most marked divisions in nature, although still little distinguished by botanists. Without them, one cannot form any idea of the natural order. They correspond to the great genera of Linné,¹⁴ which are very numerous in species, like the euphorbias, centauries, polygonums and geraniums, which include several of Tournefort's genera. All the other genera, whose numbers of species are small, should also be united in groups. In bringing the groups together according to their natural relationships, one finds that families are composed of three or four regular groups, that is to say, that all of them have close relationships, and a family air that brings them together while distinguishing them from the rest. Thus it is that the Liliaceae contain four groups: lilies, hyacinths, asphodels and ornithogalums.

Between all families, intermediary groups naturally insert themselves, the flowers of which seem irregular, because, placed as they are between different families, between which they make the transition, they share the characters of [both] the one and the other. This combination of different characters gives them an air that astonishes due to its singularity, and it renders these plants, such as passionflowers, aristolochia, valerians, etc., hard to classify.

It is these plants that, in the majority of systems, efface the lines of demarcation that one endeavors to establish between the classes and families, or which cause aberrations.

In the system of nature, these groups, although establishing well-kept nuances between the families they unite, far from

détruire les lignes de démarcation, les marquent d'une manière agréable.

Les familles considérées isolément, abstraction faite des groupes intermédiaires, offrent des caractères très-tranchans, et sont faciles à distinguer. Il est vrai que les groupes médiateurs viennent remplir le vide qui existent entr'elles ; mais loin de causer de la confusion, ils forment un point de repos aussi commode pour la mémoire, que des caractères tranchans qui, dans le fait, ne sont que des lacunes entre les familles.

Si l'on a cru quelque temps qu'ils existaient, c'est que l'on n'avait pas encore découvert les genres qui établissent les nuances qui existent entre les familles. Tous les jours la découverte de nouvelles plantes fait disparaître les caractères tranchans qu'on s'était efforcé d'établir entre les classes et les familles.

Part 4 (29 July)

Observations sur l'ordre naturel des végétaux, par M. AUGIER-FAVAS, ex-professeur d'histoire naturelle au collège de Tournon.

DE L'ORDRE NATUREL DES VÉGÉTAUX.

Quoique les végétaux ne présentent d'abord aux yeux de l'observateur qu'une variété agréable et utile, ils forment cependant par leur ensemble un tout, qui offre un ordre admirable par sa beauté et sa simplicité, et inappréciable par les avantages qu'il présente. Les végétaux y sont disposés d'une manière analogue à leur organisation, et la place qu'ils y occupent, rend compte de leurs caractères particuliers.

C'est là l'ordre dont plusieurs botanistes anciens ont soupçonné l'existence. Quelques botanistes, d'après Aristote, ont assuré que la nature ayant suivi une marche déterminée et progressive dans la formation des végétaux, on ne parviendra à les discerner parfaitement

destroying the lines of demarcation, mark them in an agreeable manner.

Families considered in isolation, setting aside intermediary groups, offer very decisive characters and are easy to distinguish. It is true that the mediating groups fill the gap that exists between them, but far from causing confusion, they form a resting place, as convenient for the memory as decisive characters, which in fact are nothing but the lacunae between families.

If one has believed for some time that they did exist, then this is because one had not yet discovered the genera that establish the nuances that exist between the families. Every day the discovery of new plants causes the disappearance of the decisive characters one had endeavored to establish between classes and families.

Observations regarding the natural order of plants, by Mr AUGIER-FAVAS, former professor of natural history at the College of Tournon.

ON THE NATURAL ORDER OF PLANTS.

Although plants at first present nothing beyond a pleasing and useful diversity before the eyes of the observer, they nonetheless form, in their entirety, a whole, which offers an order admirable for its beauty and simplicity, and invaluable because of the advantages it offers. Plants are there¹⁵ arranged in a manner analogous to their organization, and the place that they occupy there accounts for their specific characters.

This is the order whose existence several ancient botanists suspected. Some botanists, following Aristotle, asserted that since nature has followed a determined and progressive course in the formation of plants, one will not succeed to fully discern them except by gathering them

qu'en les rassemblant, et en les rappelant à cet ordre premier dans lesquels ils furent créés.¹⁶

La nature, dit Linné, ne fait point de saut, toutes les plantes montrent de l'affinité de toutes parts, comme une région sur une mappemonde.¹⁷

En effet, toutes les familles de plantes offrent des points de contacts avec plusieurs autres, et cela parce que les végétaux forment plusieurs séries qui, rapprochées et disposées sur plusieurs lignes horizontales qui se touchent dans toute leur longueur, donnent lieu à ces différents points d'attouchemens.

Si les végétaux ne formaient qu'une série unique, il y a long-temps que l'ordre naturel serait connu. On pourrait les disposer sur une seule ligne, et les cryptogames n'auraient qu'un seul point d'attouchement avec les apétales, de même que les apétales avec les polypétales, et celles-ci avec les monopétales : mais il n'en est pas ainsi, chaque famille des cryptogames a des points de contacts avec les apétales. Chaque famille des apétales en a aussi avec les familles des polypétales, et celles-ci de même avec les monopétales. Il résulte de là que chaque famille a des points de contacts avec quatre autres. Par exemple, les palmiers touchent aux pillulaires, par les zamiers, aux graminées par les bambous ; aux asperges, par le dracdua [*sic*] ; et aux amentacées, par le pandames.

L'on ne parviendra donc jamais à disposer les végétaux dans leur ordre naturel, de manière à marquer tous les rapports qui existent entre les familles, si on les range sur une, ni même sur plusieurs lignes. Une figure plane même, quelque forme variée qu'on lui donne, ne représentera l'ordre naturel qu'imparfaitement.

DE L'ARBRE BOTANIQUE.

En rapprochant les familles naturelles d'après leurs rapports botaniques par le moyen

together, and by bringing them back into that first order in which they were created.

Nature, says Linné, makes no leaps; all plants show affinity on all sides, like a region on a world map.

Indeed, all plant families present points of contact with several others, and this is because plants form several series that, when brought together and arranged on several horizontal lines that make contact all along their length, give rise to these different points of contact.

If plants formed only one single series, the natural order would have been known long ago. One could have arranged them along a single line, and the cryptogams would have had only a single point of contact with the Apetalae, just as the Apetalae with the Polypetalae, and these in turn with the Monopetalae. Yet this is not so, each family of cryptogams has points of contact with the Apetalae. Each family of Apetalae has the same with the families of Polypetalae, just as the latter with the Monopetalae. It follows from this that each family has points of contact with four others. For example, palms are connected to pillworts by way of zamias, to the Gramineae by way of bamboos, to asparagus by way of the dracaenas,¹⁸ and to the Amentaceae by way of the pandans.

Hence one will never succeed in arranging the plants in their natural order, in such a way as to mark all the relationships that exist between families, if one arranges them along one or even along several lines. Any plane shape, however complex a form one grants to it, will represent the natural order only imperfectly.

ON THE BOTANICAL TREE.

In bringing the natural families together according to their botanical relationships, by

des groupes médiateurs, l'on se convaincra aisément, que les végétaux disposés dans leur ordre naturel, forment réellement des ramifications. Ces ramifications forment un arbre extrêmement régulier, et marquent les rapports que les différentes familles conservent entr'elles, quoiqu'en s'éloignant du tronc, de même qu'un arbre généalogique montre l'ordre dans lequel les différentes branches d'une même famille sont sorties de la tige à laquelle elles doivent leur origine.¹⁹

Les espèces dans les genres doivent être disposées en corymbe, et former les bouquets de l'arbre. Les genres dans les gronges [*sic*] disposés en ramification forment les rameaux ; plusieurs de ces rameaux réunis, forment les branches qui répondent aux familles ; d'autres rameaux placés à l'enfourchure des branches, représentent les groupes médiateurs ; plusieurs branches réunies, forment les tiges et représentent les classes.

Les fleurs monopétales occupent les tiges intérieures de l'arbre botanique ; les polypétales, les tiges extérieures ; et les incomplètes, les branches qui sont au bas et au-dessous des tiges ; de sorte que l'arbre botanique présente à l'extérieur la figure d'une fleur radiée, dont les monopétales forment le disque, les polypétales le rayon, et les incomplètes, les phylles du calice.

Les fleurs radiées paraissent être comme l'abrégé et le type de l'ordre naturel des végétaux, puisque la figure que forment les plantes disposées d'après leurs rapports botaniques, leur est parfaitement semblable.

Cette figure mérite à juste titre le nom de fleur universelle, et le développement de cette fleur forme tout le système de la nature. Ce système offre une méthode facile pour parvenir à la connaissance des plantes, plus naturelle que toutes celles que l'esprit humain pourrait inventer, parce que c'est celle de la nature même.

means of mediating groups, one will readily be convinced that the plants, when arranged in their natural order, really do form ramifications. These ramifications form an extremely regular tree, and mark the relationships that the different families maintain between each other, even when moving away from the trunk, just as a family tree shows the order in which the different branches of one and the same family have emerged from the stem to which they owe their origin.

The species in their genera should be arranged in a corymb, to form the flowers of the tree. The genera in their groups,²⁰ arranged in ramifications, form twigs; several of these twigs gathered together form branches that correspond to families; other twigs, placed at the bifurcation of branches, represent mediating groups; several branches gathered together form stems and represent classes.

The monopetalous flowers occupy the inner stems of the botanical tree, the polypetalous the outer stems, and the incomplete flowers those boughs that are at the bottom and below the stems, in such a way that the botanical tree outwardly presents the shape of a radiate flower, in which the Monopetalae form the disk, the Polypetalae the petals, and the incomplete flowers the Phyllae of the calyx.

Radiate flowers appear as it were as the summary and type of the natural order of plants, since the shape that plants form when arranged according to their botanical relationships, perfectly resembles them.

This shape justly merits the name of universal flower, and the unfolding of this flower forms the entire system of nature. This system offers an easy method for acquiring knowledge of plants, more natural than anyone that the human spirit could invent, because it is that of nature itself.

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Notes

1. Linnaeus (1737, unpaginated, section 9): “non nego quin methodus naturalis & nostræ & omnium inventarum methodis longe præferri deberet, sed rideo omnes methodos naturales hactenus exclamatas.”
2. Linnaeus (1751, pp. 27, 36): “METHODI NATURALIS Fragmenta studiose inquirenda sunt. Primum & ultimum hoc in Botanicis desideratum est. Natura non facit saltus. Plantæ omnes utrinque affinitatum monstrant, uti Territorium in Mappa geographica. [...] Defectus nondum detectorum in causa suit, quod Methodus naturalis deficiat, quam plurium cognitio perficiet; Natura enim non facit saltus.” Later in the same book, Linnaeus (1751, p. 206) reaffirmed that, “Methodus naturalis primus et ultimus finis Botanices est et erit.” Cf. the French translations available to Augier and his contemporaries: “Les Fragments de la MÉTHODE NATURELLE doivent être recherchés avec le plus grand soin. C’est le premier et le dernier vœu des Botanistes. La Nature ne fait point de saut. Toutes les Plantes se touchent entre elles comme les régions sur une Mappemonde. [...] Les Plantes qui ne sont point encore connues, rendent défectueuse la Méthode Naturelle : leur connoissance la perfectionnera, parce qu’en effet la Nature ne fait pas de saut.” (Linné 1788, pp. 35, 45); “Donc la Méthode naturelle est & sera le dernier terme de la Science.” (Linné 1788, p. 178) Cf. the preliminary discourse to the *Encyclopédie*, published in the same year as Linnaeus’ *Philosophia Botanica*, in which Jean le Rond d’Alembert employed both a family tree metaphor (“un Arbre généalogique ou encyclopédique”) and a cartographic metaphor (“une espece de Mappemonde”) to account for the distribution of knowledge (Diderot and d’Alembert 1751–1765, 1:xiv–xv).
3. Augier (1801, p. vi): “j’avois fait une opération semblable à celle d’un homme qui voudroit disposer toutes les branches d’un même arbre de

manière à ne former qu’une série”. When not explicitly referred to a publication in English, all translations from the French are our own.

4. Augier (1801, p. 2): “Une figure semblable à celle d’un arbre généalogique, m’a paru plus propre à faire saisir l’ordre & la gradation des séries ou rameaux, qui forment les classes & les familles.”
5. Augier-Favas (1809, 60:3): “Ces ramifications forment un arbre extrêmement régulier, et marquent les rapports que les différentes familles conservent entr’elles, quoiqu’en s’éloignant du tronc, de même qu’un arbre généalogique montre l’ordre dans lequel les différentes branches d’une même famille sont sorties de la tige à laquelle elles doivent leur origine.”
6. Cf. Augier (1801, p. 1): “La méthode de M. de Jussieu a rendu un service immortel à la Botanique, en tournant l’attention des Botanistes vers les familles naturelles, qui sont le vrai but de cette science.” Cf. Linnaeus on the natural method in note 2 above.
7. Whereas scientists today use a variety of terms, *caractères* was the contemporary French rendition (Linné 1788, p. 128) of Linnaeus’ Latin term *characteres* (Linnaeus 1751, p. 97). In the first English translation of *Philosophia Botanica*, it was rendered as *characters* (Linnaeus 1775, p. 230).
8. There is more than one possible translation of the French term *tableau*. Rather than using the anachronistic designation *diagram*—or *chart*, with its cartographic connotations—we have decided on the etymologically close translation *table*, trusting that the reader knows how modern and historical connotations of the term are not identical.
9. Cf. Augier (1801, pp. vii–viii; emphasis in original): “C’est avec bien de la peine & principalement avec le secours des ouvrages immortels de Linné, Tournefort, Jussieu & Lamarck [*sic*], que je me suis tiré de ce labyrinthe. Je suis persuadé que si ces deux derniers Auteurs avoient adopté les différentes séries des végétaux unies par la base [the basic structure of Augier’s system], ils eussent trouvé le véritable ordre naturel. [...] Je désirerois que des Botanistes déjà connus par des ouvrages intéressans, voulussent adopter l’idée des différentes séries disposées en ramifications ; je suis convaincu qu’ils parviendroient à un résultat plus satisfaisant que le mien.”
10. The French grammatical feminine is not always as explicitly gendered as its English counterpart. However, because nature is typically treated as explicitly feminine (and God as explicitly masculine) in contemporary English texts, we have preserved the gendering.

11. Cf. Augier (1801, p. 12): “Tout se touche dans la Nature ; elle ne fait point de sauts : de là vient qu'on ne trouve aucun caractère vraiment tranchant.” Also cf. Augier (1801, p. iii): “la Nature ne fait point de sauts.” Augier here followed Linnaeus, who also made this axiom part of his argument for a natural method, see note 2 above.
12. In the *Encyclopédie*, *point d'attouchement* and *point de contact* were defined as synonyms: “ATTOUCHEMENT, s. m. (*Géom.*) point d'attouchement, qu'on appelle aussi point de contact ou de contingence, est le point dans lequel une ligne droite touche une ligne courbe, ou dans lequel deux courbes se touchent” (Diderot and d'Alembert 1751–1765, 1:845).
13. Augier may have been inspired by Peter Simon Pallas, who in *Elenchus Zoophytorum* described the natural system as a tree, with three main stems representing the three kingdoms of nature, all united by the zoophytes at the base. Pallas (1766, p. 24) wrote: “Hac figura indicaretur simul Corpora organica, brutis non continua nec affinia esse, sed tantum *insistere* ceu arbor solo. Truncus e principaliori generum affinium serie confertus, passim pro ramulis exsereret genera, quæ istis laterali affinitate juncta interseri tamen non possunt.”
14. Although it is standard in English to write Linnaeus' family name in the Latin format he inherited from his father, we have preserved Augier's use of the gallicized version, which the Swedish naturalist acquired in conjunction with his ennoblement in 1761.
15. Note that the word γ (“there”) does not primarily refer to his system, but rather to the order as it exists in nature, beyond human cognition.
16. Cf. Augier (1801, p. i): “Il n'est pas douteux que le Créateur qui a mis un ordre si admirable dans ses productions, n'en ait aussi établi un parmi les végétaux.”
17. Cf. Linnaeus (1751, p. 27): “Natura non facit saltus. Plantae omnes utrinque affinitatem monstrant, uti Territorium in Mappa geographica.”
18. We believe that *dracdua* is a misprint for *dracena*.
19. Cf. Augier (1801) quoted in note 4 above.
20. We believe that *gronges* is a misprint for *groupes*.

Cited works

- Académie des Sciences. 1910–1922. Procès-Verbaux des Séances de l'Académie Tenues Depuis la Fondation de l'Institut Jusqu'au Mois d'Août 1835. 10 vols. Hendaye: Observatoire d'Abbadia. Vol. 2.
- Agassiz, L. 1833–1843. Recherches sur les Poissons Fossiles. 5 vols. Neuchatel: Petitpierre. Vol. 1.
- Archibald, J. D. 2009. Edward Hitchcock's pre-Darwinian (1840) “tree of life”. *J. Hist. Biol.* 42: 561–592.
- Archibald, J. D. 2014. Aristotle's Ladder, Darwin's Tree: The Evolution of Visual Metaphors for Biological Order. New York: Columbia University Press.
- Augier, A. 1801. Essai d'une Nouvelle Classification des Végétaux. Lyons: Bruyset.
- Augier-Favas, [A.] 1809. Observations sur l'ordre naturel des végétaux [, parts 1–4]. *Journal de la Drôme* 2: 2–3; 4: 2; 6: 2; 60: 2–3.
- Augier-Favas, A. 1812. Mémoire sur l'Instruction Publique, Principalement sur l'Enseignement de la Langue Latine. Valence: Joland.
- Barnhart, J. H. 1965. Biographical Notes upon Botanists. 3 vols. Boston: Hall. Vol. 1.
- Barrett, P. H., P. J. Gautrey, S. Herbert, D. Kohn and S. Smith, eds. 1987. Charles Darwin's Notebooks, 1836–1844. London and Cambridge: British Museum (Natural History) and Cambridge University Press.
- Barsanti, G. 1992. La Scala, la Mappa, l'Albero: Immagini e Classificazioni della Natura fra Sei e Ottocento. Florence: Sansoni.
- Beuchot, A. J. Q., ed. 1812. Livres français. *Bibliogr. Empire Franç.* 1(59): 705–713.
- Bonnet, C. 1764. Contemplation de la Nature. Amsterdam: Rey.
- Buffon, G.-L. L. 1749–1788. Histoire Naturelle, Générale et Particulière. 36 vols. Paris: Imprimerie Royale. Vol. 5.
- Candolle, A.-P. de 1819. Théorie Élémentaire de la Botanique ou Exposition des Principes de la Classification Naturelle et de l'Art de Décrire et d'Étudier les Végétaux. Paris: Deterville.
- Chéron, P. 1856–1859. Catalogue Général de la Librairie Française au XIXe Siècle. 3 vols. Paris: Jannet. Vol. 1.
- Chervel, A. 2000. La contrainte orthographique. In: S. Auroux, ed. 1989–2000. Histoire des Idées Linguistiques. 3 vols. Sprimont: Mardaga. Vol. 3. Pp. 55–62.
- Darwin, C. R. 1859. On the Origin of Species by Means of Natural Selection. London: Murray.
- Desvaux A.-N. 1838–1839. Traité Général de Botanique. 2 vols. Paris: Crochard, Schwartz et Gagnot. Vol. 1. Part 1.
- Diderot, D. and J. le Rond d'Alembert, eds. 1751–1765. Encyclopédie, ou Dictionnaire Raisoné des Sciences, des Arts et des Métiers. 17 vols. Paris: Briasson, David, Le Breton, Durand. Vol. 1.

- Duchesne, A. N. 1766. *Histoire Naturelle des Fraisières*. Paris: Didot and Panckoucke.
- Duval, H. 1920. Notice sur Augustin Augier. *Ann. Soc. Bot. Lyon* 40: 17–18.
- Ersch, J. S. 1797–1806. *La France Littéraire*. 5 vols. Hamburg: Hoffmann. Vol. 5.
- Fleischer, G., ed. 1802. *Dixième classe: Sciences naturelles*, *Annuaire Lib.* 1: 247–284.
- Garneau, A. 1910. A quoi bon le latin? *Bulletin du Parler Français au Canada* 9: 8–16, 98–104.
- Gontier, N. 2011. Depicting the tree of life: The philosophical and historical roots of evolutionary tree diagrams. *Evolution: Education and Outreach* 4: 515–538.
- Gould, S. J. 1997. Ladders and cones: Constraining evolution by canonical icons. In: R. B. Silvers, ed. 1997. *Hidden Histories of Science*. London: Granta Books. Pp. 37–67.
- Haeckel, E. 1866. *Generelle Morphologie der Organismen*. Berlin: Reimer.
- Haeckel, E. 1874. *Anthropogenie oder Entwicklungsgeschichte des Menschen*. Leipzig: Engelmann.
- Hellström, N. P. 2011. The tree as evolutionary icon: TREE in the Natural History Museum, London. *Arch. Nat. Hist.* 38: 1–17.
- Hellström, N. P. 2012. Darwin and the tree of life: The roots of the evolutionary tree. *Arch. Nat. Hist.* 39: 234–252.
- Hellström, N. P., G. André and M. Philippe. 2017. Life and works of Augustin Augier de Favas (1758–1825), author of “Arbre botanique” (1801). *Arch. Nat. Hist.* 44: 43–62.
- Hitchcock, E. 1840. *Elementary Geology*. Amherst: Adams.
- Jackson, B. D. 1881. *Guide to the Literature of Botany*. London: Longmans and Dulau.
- Krüger, M. S. 1841. *Bibliographia Botanica: Handbuch der Botanischen Literatur in Systematischer Ordnung*. Berlin: Haude und Spensersche.
- Lamarck, J.-B. P. A. de Monet. 1809. *Philosophie Zoologique*. Paris: Dentu.
- Lecointre, G. 2011. Que représente-t-on avec un arbre? *Biosystema* 28: 9–39.
- Lecointre, G. 2015. Descent (Filiation). In: T. Heams, P. Huneman, G. Lecointre and M. Silberstein, eds. 2015. *Handbook of Evolutionary Thinking in the Sciences*. Dordrecht: Springer. Pp. 159–207.
- Linnaeus, C. 1737. *Genera Plantarum Eorumque Characteres Naturales*. Leiden: Wishoff.
- Linnaeus, C. 1751. *Philosophia Botanica in qua Explicantur Fundamenta Botanica*. Stockholm: Kiesewetter.
- Linnaeus, C. 1775. *Elements of Botany [...] Being a Translation of the Philosophia Botanica and Other Treatises of the Celebrated Linnæus*, transl. H. Rose. London: Cadell and Hingeston.
- Linné, C. 1788. *Philosophie Botanique de Charles Linné*, transl. F.-A. Quesné. Paris: Cailleau.
- Lobies, J.-P., O. Zeller and W. Zeller, eds. 1977. *Index Bio-Bibliographicus Notorum Hominum, Pars C, Corpus alphabeticum, Sectio generalis*. Osnabrück: Biblio Verlag. Vol. 8.
- Magnin, A. 1906. *Prodrome d’une histoire des botanistes lyonnais*. *Ann. Soc. Bot. Lyon* 31: 1–72.
- Pallas, S. P. 1766. *Elenchus Zoophytorum Sistens Generum Adumbrationes Generaliores et Specierum Cognitarum Succintas Descriptiones*. The Hague: van Cleef.
- Pietsch, T. W. 2012. *Trees of Life: A Visual History of Evolution*. Baltimore: Johns Hopkins University Press.
- Pritzel, G. A. 1851. *Thesaurus Litteraturae Botanicae*, ed. 1. Leipzig: Brockhaus.
- Pritzel, G. A. 1872. *Thesaurus Litteraturae Botanicae*, ed. 2. Leipzig: Brockhaus.
- Quérard J.-M., ed. 1827–1864. *La France Littéraire ou Dictionnaire Bibliographique*. 12 vols. Paris: Didot. Vol. 1.
- Ragan, M. A. 2009. Trees and networks before and after Darwin. *Biology Direct* 4(43): unpaginated.
- Rehder, A. 1911–1918. *The Bradley Bibliography*. 5 vols. Cambridge, Mass.: Riverside Press. Vol. 1.
- Roux, P. 1801. *Livres nouveaux*. *Journal Typographique et Bibliographique* 4(37): 289–292.
- Stafleu, F. A. and E. A. Mennega. 1992. Augustin Augier. In: F. A. Stafleu, E. A. Mennega, D. H. Nicolson and L. J. Dorr. 1992–2009. *Taxonomic Literature*, ed. 2. Supplement. 8 vols. Königstein: Koeltz Scientific Books. Suppl. 1. Pp. 211–212.
- Stevens, P. F. 1983. Augustin Augier’s “Arbre botanique” (1801), a remarkable early botanical representation of the natural system. *Taxon* 32(2): 203–211.
- Stevens, P. F. 1994. *The Development of Biological Systematics: Antoine-Laurent de Jussieu, Nature, and the Natural System*. New York: Columbia University Press.
- Tassy, P. 1991. *L’Arbre à Remonter le Temps: Les Rencontres de la Systématique et de l’Évolution*. Paris: Christian Bourgois.
- Tassy, P. 2011. Trees before and after Darwin. *Journal of Zoological Systematics and Evolutionary Research* 49: 89–101.
- Voss, E. G. 1952. The history of keys and phylogenetic trees in systematic biology. *J. Sci. Lab. Denison Univ.* 43: 1–25.