

# Philosophy and Biodiversity

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**Jean-Jacques Rousseau****Philosopher as Botanist**

FINN ARLER

Jean-Jacques Rousseau is best known as a philosopher, if not a writer of fiction. And yet, in the last decade of his life he devoted much of his time to empirical studies of biological organisms. These studies seem to have been quite extensive. If we confine ourselves to writers who are lined up in traditional histories of philosophy, Rousseau's biological studies are probably outmatched only by those of Aristotle and Theophrastus. He made his own herbaria, and he even wrote a few botanical works: a (fragmentary) dictionary of botanical terms, and a series of "elementary" letters on botany to his "dear friend" Madame Delessert, who asked for advice on how to introduce her daughter Marguerite-Madeleine to the study of plants. These letters were written between 1771 and 1773, and published for the first time in Geneva three years after his death in 1778. The most famous edition, from 1805, included illustrations made by the most celebrated of all botanical illustrators, Pierre-Joseph Redouté, "the Raphael of flower painting," protégé of both Marie-Antoinette and, in particular, Josephine Napoléon, who spent a significant part of her fortune on this sponsorship.

Unlike the biological studies of Aristotle and Theophrastus, which were not superseded for two millennia, there is nothing original in Rousseau's empirical studies. He followed the sexual system of Linnaeus rather slavishly, and he does not seem to have found any new species or any features of plants which were not described before. He was well informed about the state of the art of botany, and it is obvious that he was quite observant and systematic in his studies, but he started out so late in life, and was busy with so many other activities, that he was never able to add anything significant to the science. From a modern point of view, the most interesting thing about Rousseau is not the results of his empirical studies, but rather his meditations on the goals, reasons, and values which are involved in or emerge from these studies. In the two botanical papers as well as in his late autobiographical writings, one

can find various reflections on the value of or the values related to the study of biological diversity.

Before discussing his botanical studies, however, I shall take a look at a couple of other descriptions of natural phenomena, or rather, reflections on impressions of natural phenomena, which can be found in some of his other works. These descriptions or reflections can give us a hint about why botany was such an attractive field of study for Rousseau. In the first section I shall analyze a couple of his descriptions of gardens, in the second section I shall look at the way he describes a trip to the Swiss mountains.

## 6.1 GARDENS

It is well known that Rousseau found a symbol of the misery of his age in the contemporary baroque gardens. In the first paragraphs of *Émile* he ridicules the mistreatment of trees and shrubs in these gardens, the perverted love of monstrosities, and the excessive desire to twist and distort the natural order. Everything in these gardens is planned to be as artificial as possible, nothing is allowed to follow its own natural course. Why is that? he asks, and answers that the gardens are used as weapons in the social struggle for recognition, a struggle which everybody is bound to lose, because every individual wants more love and respect from other people than he or she would ever be willing to give him- or herself.

Thus, the gardens had become showrooms with a variety of fancy installations, including a broad array of exotic plants, and sometimes birds and beasts, imported from all the four quarters of the world. Biodiversity had become yet another means in the ongoing social struggle, wherefore the interest in the biological world was limited to the showiest organisms. The owners of gardens were trying to outrival each other by presenting new and still more strange and exotic plants and birds, together with all the other extravagant features – features which were all doomed to be superseded by new contraptions and fabrications before the end of the season.

The baroque garden included all those elements which Rousseau despised in contemporary France (although he could not deny his own attraction at the same time): falseness, vanity, artificiality, exaggeration. But, then, which kind of garden would he truly prefer instead? There are actually several possibilities (cf. Arler 1997), but I shall confine myself in this chapter to the two descriptions of gardens that tell us most explicitly about his own ideas of the ideal kinds of gardens, and indirectly about his views on the value of biological diversity. The first one is the description of Sophy's parents' garden in

book V of *Émile*. The second one describes Julie's Elysium in the fourth part of *Julie or the New Héloïse*.

Rousseau's description of Sophy's parents' garden is to a large extent based on Homer's story of Ulysses's stay in king Alcinous's garden in Book VII of *The Odyssey*, a garden that is cool, pleasant, and simple, but still filled with a variety of plants, all of which are both useful and beautiful: apple and pear trees, figs, vines, herbs, and olive trees. Sophy's parents' garden is organized the same way (Rousseau 1762/1993, 458f.; cf. also 379f.). Unlike the baroque gardens, there are no gaudy flower beds, but only a well-kept vegetable garden embellished with a few local flowering plants. There is no showy park with trimmed parterres and exotic trees, but only a fruit garden with many different local fruit trees. There are no ornamental lakes or canals but only small, free-flowing streams with herbaceous banks running through the garden. A modest kind of beauty and a simple kind of usefulness are combined in every single part of the garden. This is not a garden intended for display as part of the permanent social struggle for honor and recognition.

It is interesting to note that both Homer and Rousseau focus on humans' physical need for and attraction to plants. The human body is the measure of the garden. The scale is human, and everything is arranged to satisfy human needs of two kinds. On the one hand, the owners and visitors make use of the plants. They eat and drink the products of the garden; they need the fruits and vegetables for nourishment. On the other hand, they are attracted in a physical sense not only to the good taste of the fruits and the wine, but also to the beauty of the flowers and the quiet purl from the water courses, and they become calm in surroundings which are attractive in consequence of the specific collection of plants. Both gardens have pleasant atmospheres that visitors can sense immediately. The biological diversity is limited, however: only the most useful and pleasant plants are present, whereas the rest of the plants are left in their natural habitats beyond the boundaries of the garden.

Now, let us take a look at another garden, Julie's Elysium in the philosophical novel *Julie or the New Héloïse*, a garden that is organized for very different reasons (Rousseau 1761/1997, 387ff.). Julie's garden is described in a letter written to a friend by Julie's Platonic lover, the anonymous philosopher sometimes referred to as St. Preux (the heroic saint). When he visits the garden it is the first time he has seen Julie in seven years. Her father has forced her to marry a friend of his, Monsieur de Wolmar, who is a kind and pleasant man, but whom she does not and cannot love because of her secret, Platonic communion with the philosopher. Julie calls the garden her Elysium, because it is meant to be the meeting place for souls who have left all their earthly needs and desires behind. It is hidden by a shaded avenue and heavy

foliage from a variety of trees, shrubs, and twiners. There is a wall or a fence surrounding it, the gate is locked, and only very few people are allowed to enter.

Julie's Elysium is a paradise in the sense of the Old Persian word "peiri-dae 'za," a walled and protected space, as well as in all of the three senses we find in the Western tradition. First, it reminds us of the place where, allegedly, humans were once living in accord with nature, the kind of place that existed before vain ambitions made people see their relation to nature (as well as to other people) as one continuous struggle. Second, it is in itself an anticipation or representation of the utopian ideal of a coming resurrection of the long-lost harmony with the rest of nature. It is a representation of an appropriate communion with our fellow species, where humans play as modest a role as possible. Finally, like in the old myth of the Elysian fields, it is the place where souls meet when they have left their bodily cravings as well as other kinds of earthly desires.

The Elysium is a meeting ground of Platonic or Christian souls, who have no motivation apart from the transcendental Good or universal charity. In this sense it is a monument of Julie's pure and unearthly love to the philosopher, or a reminder of the afterlife in a purer world inhabited by souls without bodily needs and without the urge always to separate between mine and thine. It is a garden for purified souls, who are able to sense, but whose sensations are eccentric in the sense that their own self-centered needs and interests are put aside. In the last resort, the garden is incomprehensible unless one can contemplate it in purely intellectual terms.

St. Preux describes the garden as a wild and solitary place, and by entering he feels as if he was "the first mortal who ever had set foot in this wilderness" (Rousseau, 1761/1997, 387). It is as if he has returned to Paradise before the introduction and subsequent fall of human beings. He therefore imagines that the appearance of the garden must be the work of an uninhabited nature left on its own. Julie corrects him, however: it is not a true wilderness, it is an "artificial wilderness" (389). "It is true," she explains, "that nature did it all, but under my direction, and there is nothing here that I have not designed" (388). She designed the Elysium herself, but she did it in accordance with nature as it would have been without the presence of humans. There is not even the slightest trace of cultivation, and great care has been taken to erase all human footprints (393).

Why does the garden have to be an artificial wilderness? The reason is that the garden is intended as homage to virtue, not to innocence. To be virtuous is to do what one considers to be right *in spite of* an inclination to do the opposite. The Elysium is not for innocent people who have no real

freedom and only act in accordance with their natural inclination, like beasts. It is for free spirits who are able to cool their heated passions and act as the purified heart with its sense of real duty tells them to do. In a wilderness there would be no virtue; only an artificial wilderness can satisfy the demands of freedom.

Everything in the garden is therefore ordered in accordance with the demands of a nature that does not include the selfish interests of human beings. This ambition can also be seen, for instance, in the owners' relation to the birds. There is an aviary in the garden, but it is not like other aviaries: the birds are not closed in by latticework. The birds are not kept for pleasure. They are free to fly away, but nevertheless prefer to stay. "I see," the philosopher says, "you want guests and not prisoners." But even this is not an appropriate description, he is taught: "Who are you calling guests?" Julie responds, "It is we who are theirs. They are the masters here, and we pay them tribute so they will put up with us occasionally" (391). Only by following a nature in which their own self-centered desires have no part can humans enjoy its pleasures in the right, eccentric way.

Unlike the gardens of Alcinous and Sophy's parents, Julie's garden is thus laid out without even the slightest thought about utility. The garden is indeed pleasant and agreeable, but this is only a secondary gain. The main purpose for Julie is to create a place where souls can meet beyond social and bodily needs, desires – and inequalities. The garden is isolated from ordinary social life, and it was never meant simply to please the senses. It is almost as if the visitors to the garden have deposited their bodies at the entrance, in order to be able to see the organisms unfold and develop without a second thought for their own previous social and bodily interests. If one can still talk about an interest in the biological diversity of the garden, it is an interest that is thoroughly purified, a disinterested interest.

## 6.2 MOUNTAINS

*Julie or the New Heloïse* includes another description of an encounter with natural phenomena that adds yet another piece to the picture Rousseau draws of our relation to biological diversity. I am thinking of the anonymous philosopher's description of his travels to the Swiss mountains. St. Preux's main reason for the trip is to put his heartaches at a distance for a while. He is beginning to realize that his love for Julie may never be satisfied in an earthly sense. It is likely that their communion will never be official, and he will probably never have the chance to unite with her in a physical way. He is

also beginning to realize that Julie's love depends on his ability to transcend his own social and bodily inclinations. He must be worthy of her love, and to obtain this his own love must be as pure and unselfish as she believes her love to be. To preserve this love he must get away from her for a while, to cool the bodily passions and social ambitions in order to avoid being carried away and acting rashly. So he heads for the mountains.

Mountains are attractive to people with a philosophical temperament for obvious reasons. In the mountains everyday life is kept at a distance. One is out of reach, leaving the everyday world behind. The thin air together with the effort needed to reach the top contributes to this cleansing process. The ascent is a kind of cathartic process, which at least temporarily changes one's attitude toward the world. The very physical scale of the mountains – together with the signs of its incomprehensible time scales – add to this sense of otherworldliness. Finally, a mountain peak is the best spot from which to view the surrounding world.

Rousseau lets the anonymous philosopher use at least some of these points in his letters to Julie. St. Preux carefully describes how he, after a long cathartic stroll through the clouds, finally reaches a site with a clear view where, in season, he could have seen thunder and storms gather below. He admits that this can all too easily be compared with the "vain image of the wise man's soul, the original of which never existed, or exists only in the very places that have furnished the emblem" (Rousseau, 1761/1997, 64). But even this sober-minded reflection cannot prevent the change of attitude which the mountains bring about. "It seems that by rising above the habitation of men one leaves all base and earthly sentiments behind, and in proportion as one approaches ethereal spaces the soul contracts something of their inalterable purity. There, one is grave without melancholy, peaceful without indolence, content to be and to think: all excessively vivid desires are blunted; they lose that sharp point that makes them painful" (64). Thoughts become purer and clearer high in the mountains, and become liberated from the disturbing sentiments that stick to them down in the valley below the clouds.

At the same time, however, St. Preux underlines yet another important experience: the almost insistent presence of natural phenomena makes him forget all his self-centered worries. He does not even have time for daydreaming, because unexpected vistas of stones and cliffs, waterfalls and streams, dark woods and open meadows, unknown animals and strange plants show up and distract him at every turn of the trail (63). The visit to the mountain not only frees him from the sentiments that have absorbed him, and made his thoughts fuzzy. It also allows him to become absorbed in the natural phenomena which surround him: "all in all, the spectacle has something indescribably

magical, supernatural about it that ravishes the spirit and the senses; you forget everything, even yourself, and do not even know where you are" (65).

There is an important difference between the two kinds of absorption. The absorption in sentiments has a self-centered side to it. The philosopher's love for Julie is not as pure as he wishes it to be. It is combined with an exclusive kind of longing: he does not only want the best for her, he also wants to be the one she chooses to be with. He wants satisfaction of his own needs. On the other hand, his absorption in the natural phenomena is not combined with any personal interest and ambition. He is simply fascinated by them, in a disinterested way which does not involve any self-centered sentiments. If he tries to get closer to a squirrel or a hawk, it is not because he has some exclusive or external interest, and he will not be harmed personally if they turn their back on him and disappear. If Julie did the same thing, without any satisfactory explanation, it would have devastating consequences. His absorption in self-centered sentiments makes him forget his sober-minded and impersonal reasoning capacity, whereas his absorption in the natural phenomena makes him forget the self-centered sentiments.

Rousseau unintentionally draws an interesting parallel between the philosopher's interest in the natural phenomena and the behavior of the mountain peasants toward strangers. What strikes the philosopher about the peasants is "their disinterested humanity, and their zeal of hospitality toward all strangers whom chance or curiosity leads to them" (65). Strangers are not used to gain a profit from their visit. They are welcomed and treated with extensive hospitality. This is particularly remarkable, because the peasants farther down in the valley were known to be quite rough on travellers.

The difference is explained to the philosopher by one of the mountain peasants: "In the valley, he said, the strangers who pass through are merchants, and other people solely occupied by their trade and gain. It is just that they leave us a part of their profit and we treat them as they treat others. But here where no business attracts strangers, we are sure that their travels are disinterested; and so is the welcome we reserve for them. They are guests who come to us to see us because they like us, and we greet them with friendship" (65). This friendship is not comprehensive, intimate, and exclusive, like the ones between Julie and her cousin Claire and between St. Preux and Lord Edward, but it is still generous, open-minded, and free from ulterior motives. The peasants and the visitors are mutually moved by a disinterested interest which, apart from the mutuality, is not very different from the one that leads the philosopher in his study of hawks and squirrels: this is likewise a study of pure curiosity, free from ulterior interests.

What is it that makes it possible for the anonymous philosopher to be totally absorbed in the mountains? What is it that he finds so fascinating that he forgets all his previous worries? When he really tries to convince us that he has found a heavenly place on Earth, a place worthy of his absorption, this is what he writes: "Imagine the variety, the grandeur, the beauty of a thousand stunning vistas; the pleasure of seeing all around one nothing but entirely new objects, strange birds, bizarre and unknown plants, of observing in a way an altogether different nature, and finding oneself in a new world. All that makes up an inexpressible mixture for the eye" (65). This, he notices, is the best and most instant medicine one can ever come across when trying to heal a broken heart: already during the first day "I attributed the calm I felt returning within me to the delights of variety" (63).

There is beauty and grandeur in the mountains, but the part of the answer that he keeps repeating is variety. Variety is the basic ingredient in his medicine for a broken heart, and variety is what he finds to be the most prominent feature of the Alpine landscape: "nature seemed to take pleasure in striking an opposition to herself, so different did one find her in the same place at various angles. To the east spring flowers, to the south autumn fruits, to the north the winter ice: she combined all the seasons in the same instant, every climate in the same place, contrary terrains on the same soil, and composed a harmony unknown elsewhere of the products of the plains and of the Alps" (63). Almost everything can be found there, not only in striking combinations of opposites like the one between the "grand and superb objects" and "the charms of a cheerful and rural place," but also in the constant changes in the mixture of plants and animals, which one observes on the way toward the summit (425). There is always more to see, one will never get bored from looking at the same old things day in and day out. Still, unlike the baroque gardens, nothing is arranged to arouse the curiosity for ulterior reasons.

### 6.3 COLLECTING PLANTS AND STUDYING BOTANY

So far I have only discussed works which Rousseau produced before he threw himself into the botanical studies. It is quite obvious that he was aware, at least intellectually, of the possible pleasures to be derived from the study of botany, years before he became preoccupied with it himself. For instance, he makes it clear to us how eager Émile's teacher is to take his pupil out on long walks where they can study stones and plants in real-life surroundings. Likewise, he brings to St. Preux's attention the many unknown plants in the mountains, and enables him to identify a series of plants when he visits Julie's Elysium.

It was not until the last one or two decades of his life, however, that Rousseau finally found the time to pursue a thorough and still more passionate study of botany.

On the seventh of the nine reflective walks narrated in *The Reveries of the Solitary Walker*, he tries to figure out why he has found the study of botany so rewarding. The first thing that comes to his mind is the same thought he has already let St. Preux point out in *Julie*: it distracts his attention from all the worries he is facing in the social world. The study of botany is a refuge where he can hide himself and at the same time collect new energy from the engagement in a pleasant diversion: "having arrived in places where I see no trace of men, I breathe more at my ease, as though I were in a refuge where their hatred no longer pursues me" (Rousseau 1782/2000, 65). He even sees it as a sweet revenge on all his (real or imagined) persecutors and tormentors, who undoubtedly will be vexed at the continuous happiness he has found in the study of plants (58).

If there were nothing truly rewarding in the study of plants, however, there would be no sweet revenge. The refugee from the social world would just be deceiving himself, if he kept insisting that the study of botany could fill the void which the withdrawal from social life has left within him. So there must be something in it that can truly compensate for the losses in the social sphere. An important part of the attraction is that it is more pleasant and less demanding than the philosophical reflections on which he has spent most of his time (58). A philosophical meditation is more laborious, tiring, and sometimes even depressing. It is not immediately rewarding the way the study of plants is. Botany is less tiresome because it can be done without continuous reflection, and, in contrast to philosophy, it includes much sensuality. Consequently, one can lose oneself easily, without being disturbed by depressing meditations and self-examinations, in the joy of the harmony and beauty of all the living wonders of nature. Just like trips to mountain peaks, botany allows a great escape from everyday life.

In this sense, the study of botany is for Rousseau very much in line with his reveries about reverting the fall of man, trying to become truly united with Mother Nature once again. When one loses oneself in the study of one's fellow creatures, it is almost like returning to a state of nature, where there existed immediacy and transport of delight, and where no vanity, ulterior motives, or social quarrel and competition were degrading human life. In the study of nature one can still regain some of the experiences of true belonging and selfless affection, which seem so rare in contemporary social life. "Oh, Nature! Oh, my mother!" he bursts out passionately, when he is finally alone on the little island Saint-Pierre, on which the citizens of Bern had allowed



him to settle, "behold me under thy protection alone! Here there is no cunning or knavish mortal to thrust himself between me and thee" (Rousseau 1789/1996, 632). Not only is there no need for the philosophical meditations, which always cut the immediate bond between humans and nature. The disinterested study of nature can even restore at least some of the *joie de vivre* which a fraudulent and deceitful social life had almost made us forget.

The wish to lose oneself in nature has a double meaning here. On the one hand, Rousseau has a deep longing to lose his status as a free but therefore also separate individual. He wants to be a tiny part of a big continuous world order, or to return to the arms or womb of the big Mother Nature. "I feel ecstasies and inexpressible raptures in blending, so to speak, into the system of beings and in making myself one with the whole of nature. As long as men were my brothers, I made plans of earthly felicity for myself. These plans always being relative to the whole, I could be happy only through public felicity" (Rousseau 1782/2000, 61). For Rousseau the whole always precedes the singular individual, the singular entity, or the singular detail. In society, the common interest precedes the private interest. In nature, the whole ecological system precedes the individuals, whether it be species or organisms. To follow a selfless interest in social and natural science is not only to put aside one's own private or personal interests, but to forget one's own standpoint and try to look at things from the largest relevant totality.

On the other hand, one can also lose oneself in the study of natural phenomena without trying to become wrapped up in the largest possible totality. When one is preoccupied with the study of some fascinating natural phenomenon, it is possible to forget personal interests and to become completely absorbed by the study of the singular phenomenon itself. The disinterested interest is not that of the total ecosystem, nature as a whole, but that of a person who is able to transcend his own selfish interest in the object, and consider the object itself simply as a fellow living being.

This is why the study of botany is more vivid and true to its subject when done by amateurs:

[A]s soon as we mingle a motive of interest and vanity with it, either in order to obtain a position or to write books, as soon as we learn only in order to instruct, as soon as we look for flowers only in order to become an author or professor, all this sweet charm vanishes. We no longer see in plants anything but the instruments of our passions. We no longer find any genuine pleasure in their study. We no longer want to know, but to show that we know, and even in the forest one is still on the scene of the world, busy to gain admiration" (64).

Professional botanists are no better than any other group of professionals who are eager to compete in the academic world. In their hands the disinterested study of botany withers away like exotic plants in collectors' gardens.

The practice of thinking of plants merely as sources of medicine has also contributed to botany's unsound reputation (60). Botany has suffered much from the fact that the influence of Dioscorides has been stronger in the history of plant studies than that of Theophrastus. Rousseau's introduction to his *Fragments for a Dictionary of Terms of Usage in Botany* begins by stating this in the very first sentences: "The first misfortune of Botany is to have been regarded since its birth as a part of Medicine. As a result people have thought only to find or to attribute virtues to plants and have neglected the knowledge of plants themselves" (Rousseau 1781/2000, 93). For centuries no proper field of research existed that could truly be called botany. The authors of botanical treatises were more interested either in combating diseases, in identifying the herbs found in the classical works of Dioscorides and Pliny, or in discussing words and names, than they were in investigating the structure and internal "economy" of the plants themselves. Only the most useful herbs were therefore explored. It was actually not plants but drugs and remedies the botanists were looking for. The "vegetable chain" was broken down and turned into unconnected links (94ff.).

According to this view, Rousseau points out, Adam must be considered as the first pharmacist, and Eden as the first pharmacist's garden, containing all the drugs of the world, disguised as plants (Rousseau 1782/2000, 60). If this were the whole truth, however, we would be totally indifferent to the members of the vegetable kingdom as long as we were healthy (61).

These medical ideas are assuredly not very suitable for making the study of botany pleasurable. They whither the diversity of colors in the meadows and the splendor of the flowers, dry up the freshness of the groves, and make greenery and shady spots insipid and disgusting. All these charming and gracious structures barely interest anyone who only wants to grind it all up in a mortar, and no one will go seeking garlands for shepherd lasses amidst purgative herbs. (60)

To treat plants simply as potential drugs is to ignore all those features that make plants truly attractive and fascinating to human beings: their enchanting grace and beauty, their contributions to the atmospheres of places, all their unique and fascinating ways of being alive. But it also distorts botany as a science: the pure philosophical interest in the way the vegetable kingdom is organized, its principles of creation, the basic structure and "economy" of plants, and the curiosity toward all the variety of forms through which life

can express itself is crippled and substituted by a petty-minded interest in the medical virtues and capabilities of the most useful plants. Even though one may come to know the drugs quite well this way, one will never know anything about the plants themselves (Rousseau 1781/2000, 94).

It becomes apparent that the disinterested interests in science and in ethics are intimately connected. Botany was inseparable from pharmacy as long as it was ruled by medical interests. It did not become a true science until it released itself from this interest. Similarly, the plants could not be duly recognized in ethics as long as they were looked upon only as potential drugs, balsams, and plasters. The external interest in medical virtues and capabilities excluded or impeded any detached view on the plants. They were always considered as nothing but means to some externally defined goal. Just as science needs to be led more clearly by an ethic of pure curiosity, ethics could use some enlightenment from the curious amateur scientist, who admires all the little wonders of nature that he discovers through his research. Both science and ethics are heading on a wrong track, if they allow medicine or other external interests of utility to decide the rules of the game. In both areas, one must be prepared to treat other life-forms with an attitude of generosity and curiosity similar to the one which Swiss mountain peasants expressed to visiting travellers, or which Julie expressed to the creatures in her Elysium.

Rousseau found these cognated pure interests in science and ethics to be very much in line with his own self-effacing attitude toward his fellow creatures, but at the same time he doubted whether they could be important to more than a few people:

With respect to that, I feel just the opposite of other men: everything which pertains to feeling my needs saddens and spoils my thoughts, and I have never found true charm in the pleasures of my mind except when concern for my body was completely lost from sight. Thus, even if I were to believe in medicine and even if its remedies were pleasant, I would never find those delights which arise from pure and disinterested contemplation; and my soul could not rise up and glide through nature as long as I felt it holding to the bonds of my body (. . .) nothing personal, nothing which concerns my body can truly occupy my soul. I never meditate, I never dream more delightfully than when I forget myself. (Rousseau 1782/2000, 61)

The interest in plants must never be confused with external interests, it must remain pure and intellectual, as if we had already been transferred to the Elysian fields.

This does not mean that there cannot be any pleasure in studying plants. On the contrary, there is much pleasure to find. The point is rather that the

greatest pleasure can only be reached when one puts one's own needs and ambitions aside, even including the longing for happiness itself, and becomes absorbed in the study of plants as independent creations with a life of their own.

Attracted by the cheerful objects which surround me, I consider them, contemplate them, compare them, and eventually learn to classify them; and now I am all of a sudden as much a botanist as is necessary for someone who wants to study nature only to find continuously new reasons to love it (. . .) In this idle occupation there is a charm we feel only in the complete calm of passions, but which then alone suffices to make life happy and sweet. (63f.)

Like the mountain peasants who are rewarded more amply when they treat travellers as friends, the disinterested botanist learns that the best reward can only be obtained if one does not look at plants as means to satisfy bodily needs.

Botany is therefore a study most appropriate for the idle life of a recluse, who has no ambitions for honor and glory, and who has no other intention with his knowledge than to admire the works of nature or its hidden creator (Rousseau 1789/1996, 631; 1782/2000, 64). Botany is a study of "pure curiosity, one that has no real utility except what a thinking, sensitive human being can draw from observing nature and the marvels of the universe" (Rousseau 1781/1979, 106). Any serious defense of biological diversity must take this as its starting point. There is nothing wrong with utility and bodily pleasures, but these interests must not get in the way of the pure interest in the phenomena themselves. Like amateur botanists we must develop an attitude of pure curiosity toward the world of biological organisms. There is a reward to gain this way, but, like the rewards of love and friendship, it can never be gained unless we forget about the rewards and become absorbed in the subject of engagement itself.

Throughout, however, it is not very difficult to find ambiguities in Rousseau's attitude toward the study of nature. Let me just mention one of those, which is most directly related to our subject. On the one hand, he is very much an advocate for scientific studies. In *Émile* it is recommended time and again to study the laws and creations of nature as directly as possible. One must encourage the child's curiosity as much as one can, and make the child familiar with the ways nature works. In the *Reveries* he also points out that it is necessary to be well acquainted with botanical theory, to understand the laws of construction in order to experience pleasure in observing them (Rousseau 1782/2000, 64). His own obsession with Linnaeus's sexual system is a consequence of the improved possibilities of observing the constructions of nature

this system has brought him. Rousseau's herbaria were not just condensed diaries of field trips to beautiful landscapes, recalling for his "imagination all those ideas which gratify it most" (68). They were also the basic material, on the basis of which he planned to write botanical treatises on the local flora (Rousseau 1789/1996, 630).

On the other hand, he is quite sceptical about the scientists', especially town-bred scientists', ambitions. He finds just as much vanity in the world of science as in other branches of culture, and he is continuously critical of the scientists' obsession with artificial systematics, and of their eagerness to isolate the single objects from their natural surroundings in order to put them into botanical gardens, cabinets, and herbaria. It should also be remembered that Rousseau described the idler as the most dangerous man of all in his *Discourse on Science and Art* (1750/1971, 32f.). Science arose from idleness with disastrous consequences: it continuously undermines belief and ridicules ordinary people's commitment to traditional values, it creates a new elite with yet another set of ways to separate people and make them vain and selfish, and it delivers the means to disfigure nature and turn it upside down.

Compared with this he definitely prefers the practical man, in other words, the local peasant's interest in the utility of the plants. There is more honesty and less artificiality in his practical aims than in the professional botanist's interest, especially when it is combined, as it usually is, with vain ambitions for honor and glory. After all, the life of the peasant is "closer to nature" than that of the scientist. The natural way of human beings involves some simple utilitarian interests, and even the least ambitious scientist's detachment introduces yet another artificial barrier between humans and the rest of nature.

This ambiguity can be found, for instance, in the following reflection from *Émile* on the joy of studying the natural phenomena *in situ*, where *in situ* includes the local customs of people who are living "close to nature":

Is there any one with an interest in agriculture, who does not want to know the special products of the district through which he is passing, and their method of cultivation? Is there any one with a taste for natural history, who can pass a piece of ground without examining it, a rock without breaking off a piece of it, hills without looking for plants, and stones without seeking for fossils? Your town-bred scientists study natural history in cabinets; they have small specimens; they know their names but nothing of their nature. *Émile's* museum is richer than that of kings; it is the whole world. Everything is in its right place; the Naturalist who is a curator has taken care to arrange it in the fairest fashion; Dauberton could do no better. (Rousseau 1762/1993, 449)

The appropriate setting for plants is not a herbarium or any other artificially ordered collection, but the local environment, which is the creation of the great Naturalist, no matter whether one includes human beings or not.

When Marie Antoinette, in 1775, removed the Parisian botanist Bernard de Jussieu's botanical garden in Versailles, a garden which had been laid out sixteen years earlier in the most systematic way with separate beds for each family of plants, and replaced it with le Hameau, a replica of Sophy's village, it does seem to be very much in line with Rousseau's own considerations, although he would undoubtedly have condemned the artificiality of the whole enterprise. It is the urban scientist's artificial system which is replaced by the very symbol of simple lifestyle. On the other hand, when Julie's husband, Monsieur de Wolmar, ridicules the flower collectors, "those curious little people, those little flower connoisseurs who swoon at the sight of a ranunculus, and bow down before tulips," for their manic obsession with the isolated plants, and argues that flowers should only entertain our eyes in passing, as part of a scenery, and not be expertly anatomized, Rousseau immediately corrects him in a footnote: "The wise Wolmar had not thought about it very carefully. Was he, who knew so well how to observe men, such a poor observer of nature? Was he unaware that if its Author is great in great things, he is very great in small things?" (Rousseau 1761/1997, 395f.).

A similar ambiguity can be found in Rousseau's constant warning against relying too much on books. One must study the natural objects oneself in order to know them well enough. This point can be compared with one put forward in *Émile* by the Savoyard vicar who blames the church and the theology of his day for its indirectness and its reliance on books written by men: "it is men who come and tell me what God has said. I would rather have heard the words of God himself; it would have been easy for him and I would have been secure from fraud" (Rousseau 1762/1993, 312). "How many men between God and me!" he complains (313). Books, botanical no less than theological, only bring second-hand knowledge, and they should always be used with much caution. It is only through direct acquaintance with the natural phenomena that one can become a true student of nature.

But then, on the other hand, it is obvious that the botanical books, first of all those of the Bauhin brothers, of Tournefort, and of Linnaeus, were necessary eye-openers even for Rousseau himself. They made him look for things he would never have found on his own, and they gave him an idea of principles, on which the whole of the vegetable kingdom may be built. The way he organized his own herbaria and the advice he brought forward in his botanical letters were based on lessons from the great botanists. When he later realized that even Linnaeus's system was as artificial, and therefore as

empty, as all the previous systems of botany (Rousseau 1789/1996, 631), this cooled his passion for the Swedish naturalist somewhat, but it could not undo the lessons he had learned from him.

#### 6.4 CONCLUDING REMARKS

In Dr. Thornton's sumptuous and luxurious florilegium, the *Temple of Flora*, published in the beginning of the nineteenth century (Thornton 1807), one can find an illustration showing the celebration of a bust of Linnaeus by a series of allegorical figures, representing various interests in the botanical diversity, which he, Linnaeus, had mapped out for everyone to see. To the left stands Aesculapius with his snake-stick, representing the interest of medicine, and to the right is Ceres, the goddess of agriculture. More to the center of the picture is Flora, representing the sensual beauty of flowers. She is about to put a wreath around Linnaeus's neck, while the god of spring, Zephyr, looking down from the top, strews more flowers on the bust's head. Only the grey head of Linnaeus is present in the picture, but one can easily surmise that the absence of his body and the lack of colors are probably quite suitable for a detached scientist. Cupid represents the sexual system, the most lasting result of Linnaeus's intellectual efforts, and on behalf of the great author of all things Cupid is writing a poem (which the Author allows to be written by the pen of Charlotte Lennox) on the pedestal:

An animated Nature owns my sway,  
Earth, sea and air, my potent laws obey  
And thou, divine Linnaeus, trac'd my reign  
O'er trees and shrubs, and Flora's beauteous train,  
Proved them obedient to my soft control,  
And gaily breathe an aromatic soul.

Throughout his life, Rousseau was sceptical about doctors, and as we have already seen, he believed that the excessive interest in medical drugs and plasters was to blame for preventing botany from becoming a true science for centuries. But apart from a certain nuisance caused by the presence of Aesculapius, Rousseau probably would have accepted the allegorical picture as a fair representation of the basic interests in the preservation of botanical diversity, and even though he finally was to doubt the naturalness of Linnaeus's system, he would still have approved very much of the celebration itself.

In Alcinous's and Sophy's parents' garden Ceres seems to have had the most comprehensive role to play, but she always played it in intimate

collaboration with Flora. In Julie's garden, on the other hand, neither Ceres nor Aesculapius were ever let in. Flora was an obvious figure here, too, but she was never the main figure. The main part was Cupid's, and he filled it out with utmost skill, never letting the audience know whether the sexual system truly belonged in the science or love department.

When Rousseau himself began to study botany, he was undoubtedly influenced by Flora, but it was the part of Cupid trained in the botany department who soon took the lead. After a while Rousseau almost began to see himself like the bust of Linnaeus. His article on Flowers in the *Dictionary of Botanical Terms* thus opens with the following lines: "If I should let my imagination surrender to the sweet sensations which this word seems to evoke, I would be able to write an article pleasing perhaps to shepherds, but most unacceptable to botanists. So for a moment let us forget bright colours, sweet scents, and elegant shapes, to discover first how to know really well the organism which embraces all these properties" (Rousseau 1781/1979, 134). Like Linnaeus himself, however, Rousseau never put colors, scents, and shapes aside for long. Flora was with him all along, and more so than ever when he was strolling through the countryside searching for new and interesting plants.

Rousseau was always ambiguous and often contradictory in his writings. He was never able to fully reconcile the various images of man as a user of the rest of nature, as a detached observer with a prosaic attitude and scientific ambitions, as an engaged, poetic sensualist who is transported by the beauty and splendor of his fellow creatures, and as a daydreamer lost in reveries of being absorbed in a great unreflective order of nature – to which one must immediately add the image of man as the most valuable creation of nature: the only one who can comprehend and admire at least a few of the traces of the otherwise incomprehensible authorship, and the only one whose freedom allows him to move from innocence to virtue.

If Rousseau had been asked to produce a defense of biological diversity, he would undoubtedly have drawn on all these images, each representing one aspect of human life in need of fulfilment. Plants are both useful and pleasant to peasants like Sophy's parents who were living the most simple and natural life one can imagine. They are interesting objects of study for detached scientists and philosophers like St. Preux, because they each have an independent life. And each of them can be found beautiful or fascinating in their own way, being, like each of us, a creation of the Almighty, as Julie or the Savoyard vicar would have argued.

Rousseau kept insisting that a human being is more valuable than any other organism, due to the gift of freedom, but at the same time he argued that the only way to be worthy of the status as kings of nature, the most

appropriate way to use the gift of freedom, is to treat other organisms as fellow creatures, and to underplay the self-centered interests as far as possible. The freedom of human beings should be used in a way which transcends their most self-centered aspirations. Rousseau can thus be considered anthropocentric and nonanthropocentric at the same time: we are only truly human beings if we can avoid being absorbed in our self-centered sentiments, if we can look at other creatures in a detached and yet engaged way. Our freedom allows us to develop a disinterested interest, and this development is the most valuable contribution a human being can make. He was well aware of the contradictions, which could follow from using all the different images of man at one and the same time, but he defended himself by pointing out that "the fault is in nature, not in me" (Rousseau 1789/1996, 174).

Most of the arguments put forward in the modern debate on the value of biological diversity can already be found in the writings of Rousseau: utilitarian value, aesthetic value, scientific value, amenity value, transformative value, existence value. I hope I have shown that he is still able to make an interesting contribution to the debate. At the same time, however, it is necessary to avoid the most fundamental contradiction in his theory: we cannot continue to use human-free nature as a normative standard, while at the same time insisting on the freedom of human beings as the crown of creation. The most promising way to avoid the contradiction is not to become misanthropic and deny that humans have anything valuable to contribute, but rather to insist that human beings are part of nature, that a human creation can be just as valuable as any other natural phenomenon, and that we can never fully move beyond the point of view we have inherited as natural creatures living at a particular place in time and space. Human culture is yet another part of the biological diversity, and if people like Rousseau are right, it is likely to flourish much better, and be qualitatively better off, if it is able to develop a disinterested interest in species of organisms that are different from us . . . even though we cannot avoid eating carrots and beans, or even a medium-done steak now and then.

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