

## 2.1 Strangers in paradise How culture shapes attitudes towards introduced species

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▶ *Disquieting parallels between social and natural phenomena are reasons for critical reflection.*

Migration is currently a ubiquitous and controversial issue. We hear and see news daily of refugees fleeing their home countries and seeking shelter in Europe. Challenges and opportunities of immigration are highly contested within and between European societies. While some welcome refugees and support their integration and naturalisation, others react with misgivings and some with outright xenophobia. Sceptics are concerned that the newcomers might impair the quality of life of the domestic population.

Against this background, this chapter looks at parallels between the socio-cultural discourse on immigration and the conservation discourse on introduced species. The introduction of tree species raises questions that are quite similar to questions raised by immigration:

- Can introduced species enrich the native flora?
- Will the new arrivals assimilate into existing communities or will they change or even dominate them?
- How much immigration can a community take without losing its valued identity?

Many invasion biologists deplore the emotional quality of the debate about introduced species and advocate a fact-based approach. Some have rightly urged caution in the use of terms such as 'native', 'invasion' and 'alien' in an effort to avoid triggering xenophobic reflexes (Binggeli 1994, Larsons 2005, for definitions also see *Introduction*). To understand the reasons for the passionate discourse regarding this controversial topic, this chapter explicitly focuses on the emotive aspects of the topic in relation to introduced and invasive tree species. Conservation decisions do not solely depend on facts but inevitably involve values and norms that are deeply rooted in individual, social and cultural identity. They, therefore, can arouse strong emotions.

To understand how scientific facts, social values and ethical norms intermingle in the discourse on introduced species, in 1998 I reviewed the ecological literature on biological invasions as well as the historic and cultural backgrounds of nature conservation (Eser 1998a,b). These studies showed that the discussion about species introductions reflects socially constructed images of humans and nature sketching ways in which introduced species either irritate or reaffirm these sociocultural images.

Assuming that the assessment of introduced species involves judgements about human action, the negative notion of humanity prevailing in conservation literature is first discussed. There are three different images of nature that are relevant for understanding the discourse on introduced species: (1) nature as ‘our home’; (2) nature as ‘pristine beauty’; and (3) nature ‘red in tooth and claw’ (brute nature). I will demonstrate how these images contribute in different ways to a negative assessment of invasive introduced species. Concluding, I plead the case for broadening the scope of the debate. The controversy about species introductions is not simply a matter of xenophobia. Rather, it is a reflection of modernity’s struggle to cope with difference and change.

► *The negative connotations associated with introduced species reflect a misanthropic tendency of nature conservation.*

Introduced species are defined as species in a given area whose presence is [...] a result of human activity” (see table 3). The assessment of introduced species, thus, inevitably involves judgements about human activities. Between the lines of ecological texts about introduced species, one can find hints on the author’s attitude towards humans and human actions. In invasion ecology, this attitude is generally rather pessimistic, if not plainly misanthropic. Charles Elton, the founder of invasion ecology, already revealed a negative image of humanity in his landmark book *The Ecology of Invasions by Animals and Plants*:

“The reason behind this, the worm in the rose, is quite simply the human population problem. The human race has been increasing like voles or giant snails and we have been introducing too many of ourselves into the wrong places” (Elton 1958:144).

In a similar vein, Warren Wagner stated in the anthology *Biological Pollution*:

“The species *Homo sapiens* itself is without question the super invader of all time” (Wagner 1993).

Such a generic argumentation is very common in the environmental discourse. Without acknowledging different individual, social or cultural ways of living, many friends of the Earth regard humanity as a problem for nature. They tend to idealise nature (‘nature knows best’) and accordingly regard any human intervention into natural processes *per se* as wrongful.

From an ethical perspective, however, such a view is questionable. Unlike voles or snails, humans do not simply follow their instincts. Though they do not always act reasonably, they are capable of reason, they can recognise and evaluate consequences of their actions, and they can (and ought to) take responsibility for them. A merely biological perspective misses this specifically human dimension of action. People have reasons for what they are doing. If these reasons are good reasons or bad reasons, if the consequences are desirable or undesirable is a matter of judgement, and reasonable judgement follows from reflection, not from instinct.

Hence, the mere fact that the presence of a species in a given area is a result of human activity is not a sufficient criterion for its assessment as ‘bad’. ‘Natural’ does not equal

'good' and 'anthropogenic' does not equal 'bad'. Consequently, case-based assessments of species introductions do not apply to species as such, but to reasons and consequences (e.g. Palmer and Larsen 2014). Alternative approaches may evaluate reasons for and consequences of an introduction and consider all possible benefits and costs (e.g. Aubin *et al.* 2011).

▶ *The discourse on introduced species refers to and reaffirms three images of nature: cultivated nature as home to humans, pristine nature as the epitome of the morally good, and brute nature as the arena of the struggle for existence.*

There is a certain tendency among environmentalists to idealise nature. Since the rise of the environmental movement in the 1970s, environmentally concerned citizens and scientists have sought to re-orient our modern life-styles towards more sustainable ways of living. Many regard nature's complexity and vulnerability as limiting human dominion over nature, not only factually, but also morally. Representatives of ecological ethics seek to overcome anthropocentrism and claim that nature itself should become an object of ethical reflection and theory. They expect nature to provide moral orientation.

However, the environmentalist directive to follow nature faces two problems. Firstly, 'natural' does not equate to 'good'. To infer a moral 'Ought' from an empirical 'Is', counts as naturalistic fallacy. Secondly, nature functions as a projection screen for all kinds of human preferences and fears. We can see cooperation in nature as well as competition, we find aggression as well as care, and we observe fight as well as flight. In seeking to orient our lives according to nature, we are in danger of interpreting nature according to our culturally shaped sets of norms and values and, then, justifying these values and norms by declaring them natural. Such circular reasoning risks reaffirmation of values that are socially constructed and deserve critical reflection.

Many conservationists deem introduced species as a problem; in order to understand what exactly nature means to conservationists a literature review of biological invasions was conducted resulting in realisation of three contrasting images of nature (see table 3):

1. Cultivated nature as home to humans;
2. Pristine nature as the epitome of the morally good;
3. Brute nature as the arena of the struggle for existence.

**Table 3:** Three images of nature

| Image of nature | Cultivated nature                 | Pristine nature                             | Brute nature                        |
|-----------------|-----------------------------------|---|-------------------------------------|
| Represented by  | Gardens, Cultural landscapes      | Primeval forests                            | Jungle                              |
| Leading idea    | Harmony between humans and nature | Nature is good, human interventions are bad | Eat or be eaten, no room for morals |

Perspectives on introduced species that behave invasively relate to these images in different ways: for those who value cultivated nature as home to humans, introduced species

may be considered as too natural (i.e. the brutal side of nature) to be an object of conservation; for those admiring pristine nature, introduced species are not natural enough to be thought of as valuable and may actually threaten the pristine characteristic; for those adhering to nature as the arena of the struggle for existence, the spread of introduced species is just natural and therefore does not pose a problem.

*The anti-modern origins of nature conservation regard cultivated nature as home to humans (“Heimat”). Introduced species impair the uniqueness of this homely nature.*

One early example of the projection of a particular ideology onto nature is from the founding father of German nature conservation Ernst Rudorff. In 1897, the conservative traditionalist lamented the “uglification” of landscapes through land re-parcelling:

“What has become of our beautiful, glorious ‘Heimat’ with its picturesque mountains, rivers, castles and friendly towns. [...] [The re-parcelling] transfers the barren principle of straight lines and squares so blindly into reality that an area that underwent the tempest of such regulation looks like an incarnate example of economic arithmetic” (Rudorff 1926: 22, my translation).

Rudorff was not only concerned about nature, but about a particular culture that brought forth this beloved landscape. He criticised the annihilation of traditional culture by a modernity whose sole valid standard is instrumental rationality. This ‘barren principle’ endangers the uniqueness of landscapes and cultures brought forth by tradition. To Rudorff, the term ‘Heimat’ was key for nature conservation.

In this tradition, the opposite of ‘Heimat’ was internationalism. While the conservative view values regional and national differences, it regards the modern ideal of equality and justice as morally objectionable egalitarianism (‘Gleichmacherei’):

“With our equalisation we play into the hands of the ideals of uprooted internationalism. [...] Which patriotic goods are there to protect, that merit to risk one’s life, when every uniqueness of ‘Heimat’, its historically developed landscapes and character, every peculiarity in essence, custom and appearance, has been eliminated?” (Rudorff 1926: 76, my translation)

According to such a conservative worldview, landscapes and habits that have historically developed are good, while the substitution of uniqueness by global uniformity is bad. In this spirit, the 1993 Congressional Office of Technology Assessment (OTA) report on invasive species presented as a worst-case scenario

“One place looks like the next and no one cares” (US Congress 1993).

In this view, in order to be a home for humans, nature needs to be familiar, traditional, unique and rooted to the ground. Introduced species are clearly not this kind of nature. They are unfamiliar, modern, common and detached. They leave the cultivated land and

become feral. In contrast to harmonious cultural landscapes, they epitomise the hostile aspects of nature. Table 4 shows the mutually exclusive qualities of nature as a home and the nature of introduced species.

**Table 4:** Mutually exclusive qualities of nature as home and of introduced species.

| Qualities of nature as home | Qualities of introduced species |
|-----------------------------|---------------------------------|
| familiar                    | unfamiliar                      |
| traditional                 | modern                          |
| cultivated                  | feral                           |
| unique                      | common                          |
| rooted to the soil          | detached                        |
| harmonious                  | hostile                         |

*Romanticism regards nature as a treasure of morality – introduced species contradict this ideal by showing ruthless behaviour.*

While nature as a home represents the ideal of a suitable cooperation of humans and nature, romantic nature is considered to be untouched by humans. This image of nature is exceedingly morally charged. In Romanticism, nature appears as a treasure of virtue and a source of morality. Nature’s virginity is constitutive for its moral appeal. In his famous tale “Der Hochwald” (The High Forest), the German poet Adalbert Stifter wrote:

“For there is decency, I want to say an expression of virtue in the countenance of nature that has not been touched by human hands, to which the soul must bow as to something chaste and numinous” (Stifter 1841, my translation).

The attributes that Stifter uses – ‘untouched’, ‘chaste’ ‘numinous’ – refer to the second important image of nature: nature as a virgin. The loss of virginity is also a central theme in Rudorff’s idea of ‘Heimat’. He laments the ‘shameless prostitution of nature’ and the ‘powerful advertising of scenic attractions’ by modern mass tourism as they ruin the moral effects of pristine nature by mentioning ‘But to be moral, that is to purify and uplift, nature must, above all, remain unsullied, and unadulterated” (Rudorff 1926: 74, my translation).

The metaphor of virginity is not restricted to the romantic tradition of nature conservation. It also appears in a concept that invasion ecologists use to portray healthy natural communities, the concept of integrity. Integrity describes the capability of natural plant communities to resist invasion by intruding species. According to Elton, natural communities are highly complex due to their long co-evolution. The complex interactions (compe-

tition, predation, parasitism) between individuals prevent newcomers (individuals from an introduced species) from thriving as the niches are occupied. The system is therefore stable and can resist intruders. A precondition for successful invasions is a disruption that forcibly destabilises this evolutionarily protective mechanism.

Introduced species hence represent the deflowering of nature by man. They destroy the illusion of virginity and are the proof of the fact that the respective piece of nature is no longer pristine, but has been desecrated and disgraced by human actions. While virgin nature is pure and modest, invasive species are libidinous and animalistic. Table 5 demonstrates the opposition of virgin nature and the nature of introduced species.

**Table 5:** Mutually exclusive qualities of pristine nature and introduced species

| Qualities of Pristine Nature | Qualities of Introduced Species |
|------------------------------|---------------------------------|
| virgin                       | penetrant                       |
| untouched                    | destructive                     |
| chaste                       | libidinous                      |
| virtuous                     | animalistic                     |
| numinous                     | profane                         |
| threatened                   | threatening                     |
| in need of protection        | dangerous                       |

So far, I have presented two reasons why conservationists have their difficulties in accepting introduced species: they do not fit in with the ideas of homely nature nor virgin nature. So what kind of nature are they? They are that kind of nature that romantic idealisation tends to deny: they are a brute nature.

*Evolutionary biology regards nature as the arena of the struggle for existence. As representatives of brute nature, introduced species are subjected to control measures.*

The image of nature as the arena of a remorseless struggle for existence is diametrically opposed to the romantic idea of nature as a symbol of a harmoniously ordered divine cosmos. In 1798, Thomas Malthus had published his landmark essay 'On the principle of population', where he depicted life as a 'perpetual struggle for room and food', which became an influential paper. While Adalbert Stifter enthused about nature's virtuousness, the English poet Alfred Tennyson decried the cruelty of nature. In his poem *In Memoriam A.H.H.* he contrasts it with the capability of love, given to humans by their creator God:

“Who trusted God was love indeed /  
 And love Creation’s final law /  
 Tho’ Nature, red in tooth and claw /  
 With ravine, shriek’d against his creed” (Tennyson 1994 [1851]).

Charles Darwin’s theory of evolution by natural selection and Richard Dawkins’s Selfish gene trace back to this image of brute nature.

While romantics idealise nature as harmonious and stable, adherents of brute nature accept nature as cruel and reckless. From an evolutionary perspective, nothing in nature is constant but rather ever changing. Therefore, the spread and establishment of new species can be regarded as natural phenomena. “The current state, or the one presented shortly before, is by no means better or the best of all possible states of nature. On the contrary: nature is dynamic, not static, and the species that live in a given area are not fixed elements of the ecosystem, as the niches of a house, a metaphor that is often used” writes zoologist Josef Reichholf (Reichholf 1996: 87, my translation).

From a conservationist perspective, however, introduced species with invasive character are undesirable. They are neither homely nature nor virgin nature, but represent a brute nature that cannot give moral guidance. When scrutinising biological texts about successful invaders, one finds many characteristics that resemble the rejected brute nature: they are highly competitive, they tend to dominate the vegetation, they are aggressive and ruthless, they occur in masses, and they are hard to control. In contrast, cultivated humans strain for cooperation, they expect integration, courtesy and consideration from each other, and individuality and self-control are valued highly.

**Table 6:** Mutually exclusive qualities of culture and of brute nature

| Qualities of Culture | Qualities of (brute) Nature |
|----------------------|-----------------------------|
| Cooperation          | Competition                 |
| Integration          | Domination                  |
| Courtesy             | Aggressiveness              |
| Considerate          | Ruthless                    |
| Individual           | Mass                        |
| Self-controlled      | Impulsive                   |

Table 6 shows that introduced species considered as invasive behave in ways cultivated people despise; they are not suitable moral models. Rather, they symbolise the kind of nature that must be dominated. One could almost say they are not humane enough to be valuable nature.

This psychologic dimension of the problem occurred during a symposium on introduced plant species in Offenburg (Germany) in 1995, where control of invasive species was a

key topic. One of the participants portrayed an effective control of Japanese knotweed (*Fallopia japonica* Houtt. Ronse Decr., Chapter 3.8) as impossible. In a desperate exclamation, he noted following: 'This plant simply is eerily potent!' Such uneasiness with regard to the impressive vigour of Japanese knotweed is a key to the understanding of negative emotions towards introduced and invasive species.

▶ *The construction of 'otherness' is the downside of the construction of the modern 'self'. Qualities that do not comply with this ideal are projected onto others.*

For the benefit of the community, human individuals learn to suppress certain aspects of human nature: egoisms, instinctive behaviour, aggression etc. In his seminal book 'Civilisation and its discontents', Sigmund Freud described how the civilisational process of self-control gives rise to feelings of discontent. The process of self-control is quite painful for the individual. Max Horkheimer and Theodor Adorno expressed this pain in dramatic terms:

'Humanity had to inflict terrible injuries on itself before the self – the identical, purpose-directed, masculine character of human beings – was created, and something of this process is repeated in every childhood' (Horkheimer and Adorno 2002 [1944]: 26).

Socio-psychological studies explain racism and sexism in modern societies by interpreting 'the others' as a projection screen for our own, tediously suppressed instinctive nature. What the (male) subject cannot accept or cannot integrate into itself is projected onto others. Historically, such 'others' have been nature, women and people of different cultures. Uta von Winterfeld has called this phenomenon 'modernity's inability to cope with otherness'. Modernity can only eliminate, or subject, or assimilate the other (Winterfeld 2006).

Invasive introduced species are therefore not simply aliens. They are a symbol of the other *par excellence*. In this regard, biologist James Brown is quite right in saying:

"There is a kind of irrational xenophobia about invading plants and animals that resembles the inherent fear and intolerance of foreign races, cultures, and religions" (Brown 1989: 105).

I hope to have shown that such xenophobia is not a natural given but a product of culture.

▶ *Invasive species of non-native origin provide a projection screen for all characteristics that humans do not like in themselves.*

Therefore, let's summarise what makes introduced species problematic for nature conservation:

Firstly, the ideal of nature conservation is rooted in the movement for the conservation of natural and cultural heritage ('Heimatschutz'). With regard to this historical background,

introduced species are (perceived as) strangers that do not belong to the landscape. Being strangers, they simply do not fit into the image of nature as home.

Secondly, introduced species are, by definition, proof of human activity. Therefore, they spoil the illusion of purity and perfection that is decisive for the appreciation of virgin nature. If only virgin nature is a valuable nature, invasive introduced species are not only worthless, but they endanger the value of the natural state of the environment.

Thirdly, invasive introduced species represent qualities of nature that are not valued in the ideal of nature conservation. Their vitality, their vigour, their massive spread and their mass occurrence represent the image of brute nature. Usually, this kind of nature is subject to control by cultural means. Invasive introduced species, however, have managed to escape from culture; they have escaped from gardens and invaded the (valuable) virgin nature surrounding the (valuable) cultivated land. Such reasons foster the most vehement emotions.

Hence, the analogy to societal processes with regard to introduced species is not simple xenophobia. Conservationists do not reject introduced species just because they are foreign: one major cultural reason for rejecting invasive alien species is that they provide a projection screen for all the characteristics that we do not like in ourselves, and therefore vicariously fight in the outside world.

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