

The role of myths in students discussing « pest »-agriculture relations

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Abstract Socio-scientific issues and socially acute questions enable moral judgement through rational, emotional, intuitive and imaginative thinkings. Our research focuses more specifically on the place of the myth in student discussions about controversial issues. We have analysed the mythemes expressed through online exchanges between students from England, France and New Zealand about three 'pest'-animal issues, the 'pests' in question being the Badger (England), Wolf (France) and Possum (New Zealand). We observe the expression of recurrent mythemes by issue, one demonizing the animal and encouraging its destruction or control, one protecting its proper nature, one ambivalent proposing a dialogue between the two first ones. These expressions relate to the living socio-cultural contexts of the students. The mytheme expressed by each student remains stable during the discussion. The potential of myths to enable critical thinking in intercultural communication is discussed.

Keywords Myth · Socio-scientific issues · Socially acute questions · Debate

Socio-Scientific Issues (SSIs) and Socially Acute Questions (SAQs), respectively conceptualised by Dana Zeidler and Troy Sadler (2008), and Legardez and Laurence Simonneaux (2006) are based on rational, emotional, and intuitive thinking to guide controversial issues and to frame moral judgement. Research analysing student argumentation through SSIs or SAQs focuses on the links between the ethical, affective and cognitive dimensions (Fowler, Zeidler & Sadler 2009; Sadler & Zeidler 2002; Zeidler & Keefer 2003; Zeidler, Sadler, Simmons & Howes 2005; Simonneaux & Simonneaux 2015). Here we extend this analytical framework to study the place of the 'imaginary' in argumentation and its links with the rational thinking.

Structural and socio-cultural feature of the imaginary and myth

The relationship between imaginary and rationality spans many years of intellectual thought. For the structural anthropologist Claude Lévi-Strauss (1962), the 'savage' mind is

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distinguished from the 'civilised' mind. The savage mind, sometimes referred to as 'primitive', or preferentially 'mythic', is represented as elementary and enduring. Although mythic thinking has long been associated with so-called 'primitive' peoples, it is present in western or civilised societies, just as much as pre-modern societies (ibid.). Unlike Gaston Bachelard (1943) who opposes rationality and imaginary, Gilbert Durand (1963) rejects this dualistic conception, considering that any rational thinking is based on imaginary, and even that rationality is part of the imaginary. '*There is no disconnection between rationality and the imaginary, rationalism being no longer, among others, a particular polarizing structure of the field of the image*' (ibid., p. 38).

Imaginary doesn't have an unified definition. Bachelard (1945) defines it as « a prodigality of aberrant images » (p. 5). Jacques Lacan (1966) refuses the imaginary as unreal. For the psychoanalyst, it is the representative of the human incompleteness. The anthropologist Durand (op.cit.) designs a theory of the imaginary as the source and the lever of hominisation ; the imaginary is not just based on secondary images but it creates symbols and myths according to universal structures. He defines three main regimes of the imaginary: the diurnal regime based on antithetic images light/darkness, the mystical one based on affectivity, the attempt of homogenization of the differences, and the synthetic one as an attempt to harmonize the opposites. These structures are not fixed, timeless. Cornelius Castoriadis (1997a) distinguishes a radical imaginary related to the fundamental fantasy of the Human, and a sociological imaginary which refers to the 'instituting power' which are the governing norms implicit in societies but which members of that society adhere to in unspoken ways.

That the imaginary is structural to the Human or socio-cultural, it is anywhere, in dreams, hallucinations, visions, and in more accomplished forms, the myths (Durand, op.cit.). Myths are conceived as the expression or outcome of processes which ensure the unity of social groups through sharing ways of thinking or acting (Culatti 2011). Usually considered as a fairy tale, the myth is a story where expressed beliefs and fundamental antagonistic tensions are staged, as for instance those between the need to protect nature and to control it. According to Durand (ibid.), the myth is a dynamic system of schemes, archetypes and symbols, creating a story. Schemes are the movement of the body, a fundamental expression in the world which leads to 'archetypes', primordial images. For example, the scheme of climbing a mountain links archetypes of the mountain peak to the head. The symbols are ambivalent and culturally instantiated. The wolf has many different guises (Lopez 2004), for instance, it can symbolise the nourishing mother (Romulus and Remus), the deceiver (Little Red Riding Hood), the wilderness or the demon (Vanagandr in Norse mythology) according to historical and social context.

Myths are permanent structures instantiated in language, discourse and are based on constitutive unities, the mythemes which are the minimal significant semantic unity of a myth, its principle of identification and the instrument of its interpretation (Durand, op.cit.; Levi-Strauss, op.cit.). The mythemes enable the myth to exist in observable forms in discourse. A mytheme will appear in different mythical stories, for example the mytheme of incestuous love present in the myths of Oedipus, Lot and Electra. Considering that the myth is the matrix model of any narrative, Durand (1996) creates the concepts of 'mythocritic' and 'mythanalysis'. A mythanalysis illuminates the recurrence of mythemes which constitute the synchronicity of a myth by the repetition of permanent structures and invariants. The repetitions manifest the structure of the myth. In a second step, the mythanalysis focuses on the diachronicity of the myth, or, in other words, how the myth is translated, interpreted

according to its context at different stages in the history of cultures.

This second step seems difficult to observe if we analyse discourses of persons in a particular time and context. Nevertheless, the analysis of discourses belonging to different cultures, to different ecological, social, cultural and economic contexts about the same issue may enable us potentially to observe differences or similarities of translations of myths.

This article therefore locates the place of the myth in socio-scientific discussions. Our aim is not to define the structure of myths deployed by students but to identify if there are observable mythemes in students' thinking in cross-national discussions of controversies around 'pest'-agriculture relations.

Organising cross-national discussions between students

How myths are elaborated in different national and cultural contexts is the subject of our research which emanates from a European funded project, Communication Across Socio-Scientific Issues, CASSIS. In this project students from three different countries – France, United Kingdom (U.K.) and New Zealand focused on pest-agriculture issues in their respective countries. In France this was the relation between the conservation of Wolves and the threat they possess to sheep farmers. In the U.K., the focus was on the Badger and its implication in the transmission of tuberculosis to cattle, and in New Zealand the Possum was the perceived pest in the harm it is deemed to transmit tuberculosis to cattle and to cause to the indigenous fauna. These relations are summarised in Table 1.

Table 1 'Pest'-agriculture issues analysed

Country	Perceived pest	Agricultural nuisance
France	Wolf	Killing of sheep in pastures by roaming Wolves
United Kingdom	Badger	Tubercular infection of cattle thought to be spread by Badgers.
New Zealand	Possum	Tubercular infection of cattle to be spread by Possums but also threat to indigenous fauna.

The nuisances that Wolf, Badger and Possum cause to breeding are consequently equivalent in view of their media coverage and the existence of scientific, ethical, economic, ecological and technological controversies about them. If the three species are considered pests, their socio-biological status differs according to whether they are predators (the wolf with regard to domestic and wild animals, the possum with regard to avifauna) or vectors of disease (the Badger and the Possum in the transmission of bovine tuberculosis).

A class was chosen in each country to take part in cross-national discussion forums. Each class included students aged 15 to 18 in general education streams. The three corresponding schools were located in urban areas. Before these exchanges took place students were introduced to their respective 'pest'-agriculture scenarios through a short summary sheet which aimed to set out the controversies although these were necessarily non-exhaustive. A summary sheet of the Badger-cattle controversy is included in appendix A. Students were then asked to discuss the controversy and map out the issues collaboratively using eco-

network maps (Abbott, 2005). In these maps actors (usually identified through nouns) are linked through ‘tasks’ (identified through verbs). To give two examples, a supermarket (actor) *sells dairy products* (tasks) to customers (actor). Badgers (actors) *transmit Mycobacterium bovis* (tubercular bacteria) to cows (actors). *Mycobacterium bovis* themselves are actors, e.g. they *infect* cows. This allows students to summarise their ideas but also to have a representation where they can shift actor-task relationships through negotiations. An example of a map is shown in figure 1.

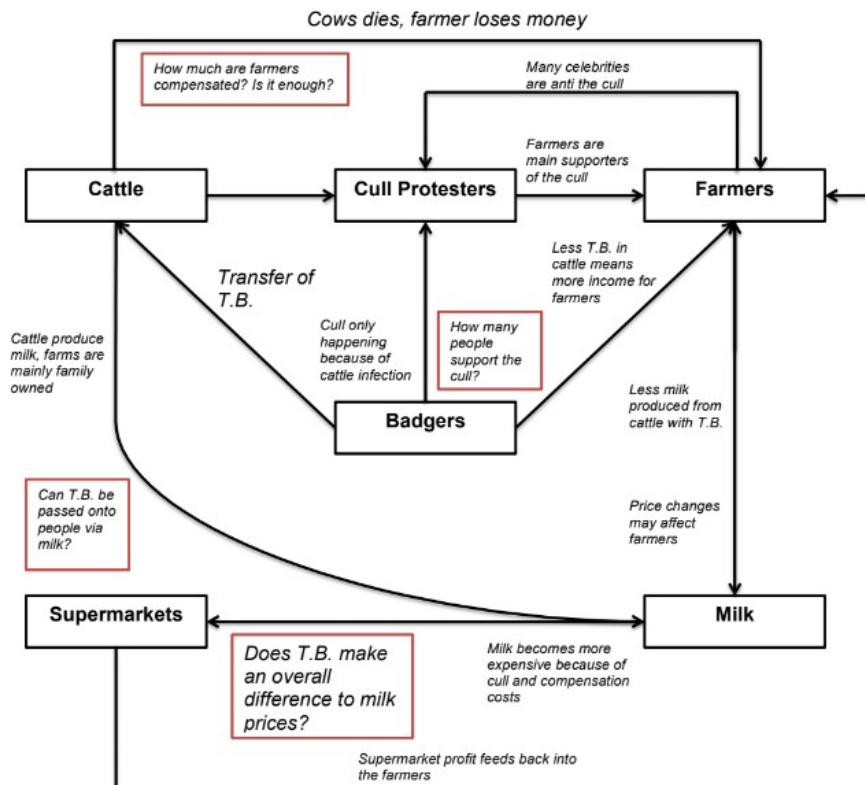


Figure 1 Example of a U.K. student's map relative to the Badger issue

Having discussed the controversy, also drawing on any extra information available, e.g. through web-searches, students start the asynchronous discussion forum by introducing themselves. Six discussion forums were held (NZ-France twice, NZ-UK twice, France- U.K. twice) during classes or in the extra-curricular context. The students were accompanied by a teacher in charge of stimulating exchanges. The researchers invited them to explore certain opinions in greater depth.

The forums took the form of blogs where the focus was on one particular pest-agriculture issue. For example, between New Zealand and France there were two forums, one which focused on wolf-sheep and a second blog which focused on Possum-fauna. The blog was chosen as a virtual space for discussion because it allows a hybridization between the oral and the written, the formal and the informal, the personal and the conceptual, the private and the public, encouraging crossing the boundaries between seriousness and play (Davies 2007). It therefore expresses opinions that are objective, subjective and social. It does not require a logical relationship, but does bring to light the medium of immediacy, and of flow, rather

than concentrating on deep consideration and reflection (Walker 2006).

The students introduced themselves through an avatar that allowed them to remain anonymous. They began by introducing themselves and then one student from each country initiated the discussion. The forums took place over fourteen days. Each student chose to participate in one of the forums. French students were adept at English but also had the support of an English teacher. Data from the forums was then analysed using mythemes as the unit of analysis.

These forums were read independently by three researchers from different countries (France and U.K.), and a mythanalysis of discourses was generated according to the following criteria (Durand, 1992): (1) the myth is narratively conditioned to the psycho-sociological context of the speaker; (2) the mythemes can be identified and are generally limited in number; (3) The mytheme has a syntactic and semantic homogeneity; (4) the choice of mythemes makes it possible to highlight an archetypical myth; (5) considering that the imaginary is rooted in sensori-motor schemes, the position or action verbs are the main criterion of the mytheme: for example the verbal schemes to *be stand up* and to *fight* against the wolf, to *protect* it, to *find compromise* according to its behaviour are three different expressions of an imaginary of the relation with this animal.

We have considered the following tracks in the talks of the students for each forum: the qualification of the human through use of adjectives, the metaphors and the action and position verbs associated with the human in the issue; the qualification of the “pest”-animal and of Nature through the adjectives, the metaphors and the action and position verbs associated with the pest-animal and Nature. In the sentences, “*wolves are not criminals*”, “*they deserve to be free*”, “criminal” is a metaphor, “deserve to be” a position verb, and “free” an adjective which qualifies the Wolf.

We have gathered the utterances which express the same mytheme, demonstrated how diachronically during the forum the different mythemes are expressed and the number and the origin of utterances supporting each mytheme.

We also qualitatively analysed the evolution per student of mythemes and associated arguments during the discussion and observed the coherence between mythemes and arguments.

Mythemes structuring the students’ arguments

Analysis of the discussion about the Possum between French and New-Zealand students

In the discussion about the Possum issue between French and New Zealand students, three mythemes are observed. The first is supported by verbs of action associated to the Possum expressing a power of destruction with regard to Nature in general (“*The possum harmed the environment too much*”, “*they are ruining the environment*”). It is deemed to have an inferior biological status compared with domestic and indigenous animals. “*We value our animals (...) more than Possum*”. Nature's interest lies in its native character which is lacking in the case of the possum in New Zealand (“*the native birds will extinct*”). Possum endorses the symbol of aggression also with regard to Human. This hostility is likely to affect not only human activities (“*they also affect our farmers and our companies and factories being shut down*”), humane health (“*they spread diseases*”) but also human life (“*they affect the way we live*”) through expression of this paroxysmal judgment: “*this leads to human extinction*”. Possum is thus associated to the death. It justifies that it is qualified of “*dangerous*”, “*ugly*”

and associated metaphorically to “*a pest*”. Echoing the mortal danger posed by Possum, for both humans and nature, through a hyperbolic exaggeration of images, the verbs of action associated with the human are only part of the separation from the Possum by its complete destruction (“*it would obviously all kill them*”), symbolically as the will to kill this symbol of death.

The second mytheme is supported by verbs associated with the Possum that expresses its will to live (“*animal who wants to live*”), a desire to be free (“*Possums do deserve the free will to live*”). The fact that the Possum can kill humans is not questioned but it is justified to the extent that the human is mostly destructive, as illustrated in the following utterance: “*humans destroy everything, and possums probably want us to die*”. Compared with the mytheme 1, we are witnessing an inversion of the symbols. Human is a danger, a pest, Possum is a victim who wishes his death. The adjectives that qualify the possum invites to miniaturize the animal: “*It's a little animal who wants to live like everybody*”. This euphemisation, this “gulliverisation” as expressed by Durand (*op.cit.*), makes the Possum fragile, cute, innocent which it supposed to be protected. Through that utterance, the student puts the animal at the same level as any living being. Conversely, Humans in the living world can be considered as dangerous, qualified as “*the worst species in the world*”. The verb of action associated with the human reverts rather to “let it do” (“*Humans must let the nature do its job*”), to respect Life (“*all animals should be able to live in their ecosystem*”) and its natural laws (“*I don't want them to die, it's nature*”). The Human is excluded from nature.

The third mytheme is exemplified by the following utterance:

“We shouldn't kill the possums because all animals should be able to live in their ecosystem but I think that we should control them (...)”.

It appears to be an attempt to combine the two first ones but to avoid radicalities: to eradicate the Possum and to settle in the negation of the danger. The Possum is considered as a living being that should be allowed to live even if it is an expanding species. Possum is still considered dangerous and its numbers should be controlled. To Human is given the power and the responsibility to interfere with the development of Possum, to regulate natural laws. A proposal given by one the student is to disturb its reproduction system, to “*make the possums unable to reproduce*”. This ambiguous proposal appears to be an attempt to find a way between Death and Life, to integrate Bad and Good. It avoids for another student to harm the Possums physically, action which is part of the mytheme 1, “*but only disabling their reproduction system*”. The action is thus related to the control, the taming of temporal rhythms, of natural cycles and their acceleration through a sexual mutilation.

The mythemes are expressed during the discussion are recurrent (cf figure 2).

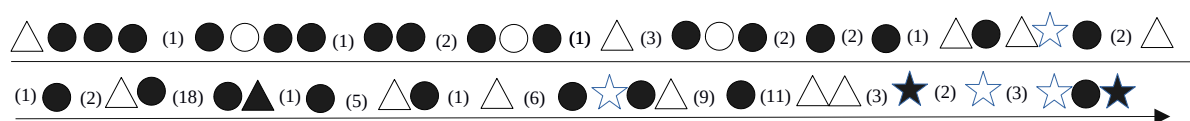
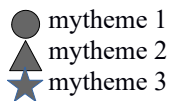


Figure 2 Expression of the mythemes during the discussion French/New-Zealand students about the Possum issue

legend:



Sign in white: French talk

Sign in dark: New-Zealander talk

(X): number of talks without expression of specific mythemes

Mythemes 1 and 2 recur during the discussion. Mytheme 1 is expressed 3 times by French students, 25 times by New Zealand students. Mytheme 2 is expressed 11 times by French students, once by a New Zealander student. Mytheme 3 is expressed three times by French students, two times by New-Zealander students.

Mytheme 1 is expressed mainly by New Zealander students, mytheme 2 mainly by French students. Mytheme 5 is expressed only three times.

Each student retains the same mytheme during the discussion. If the mytheme supports the arguments expressed with regard to the possum, concessions can be accepted: for instance A., a French student, who is part of mytheme 2, proposes solutions that avoid any destruction of the Possum: “*you should find a way to live with possum without kill them*”, “*Scientists can invent a special possums' mash, they will prefer the mash than the birds*”, “*we can try to invent a vaccine*” (against TB), “*if "tuberculose" is only for your cows you can eat other animal their sheep and a lot of animal that you can eat or to accept a predator other than human*”. Secondly, in response to proposals to eradicate the Possum, she imagines an action to regulate the population. “*You can introduce in your country eagle*”. Then a non-human animal would regulate the possum population. reacting to the proposal to sterilize the Possum, she concedes: “*(to sterilize) a million it's impossible, no. But it can be a good idea and they can do it for an hundred it can be cool*”. A. maybe accepts this solution because it doesn't harm the animal. In any case, she invites the participants to a compromise between mythemes 1 and 2 based on a small population reduction.

Analysis of the discussion about the Wolf between French and New-Zealander students

In the discussion about the Wolf-Sheep issue between French and New Zealand students, three mythemes were observed. In mytheme 1, as illustrated by the following utterance “*Wolves are just like guns (...) they can kill people*”, the Wolf, through verbs of action and metaphors, is associated to a danger for the flocks “*damaging livestock*”, but also a danger of death to humans. The verbs of action associated to Human are related to a physical separation through enclosing (“*putting in captivity*”), killing or taking away the Wolf.

In mytheme 2, interest in the Wolf lies in its wild character, which is founded on principles of freedom : “*they deserve to be free*”. In this utterance, the Wolf is considered to have desire and to have a kind of conception of freedom but also of life (“*they are animals that deserve to live*”). It is considered at the same level as the other living beings, as the other humans. Although he may be considered a criminal, he is absolved in the name of legislation that concerns only the human (“*We should not kill them because would we envisage to kill human criminals? No. And wolves are the same as them*”).

The adjectives associated to the wolf are related to its cuteness and beauty. By the utterance “*he is cute*” the student suggests, through this euphemisation, a warm intimacy with

the animal. He exorcises its threatening dimension. On the contrary the Wolf can be considered as a victim from economical decisions taken by the humans: *“I’m against the killing of the wolves because the only reason why we kill them is to save money”*. The euphemising can also concerned the key-place of the wolf in Nature. It is supposed to allow the balance of the ecosystem (*“without wolves, ecosystems can go haywire, the ecosystem will be unbalanced again”*). Human doesn’t have to oppose to its wishes or natural needs: *“they must eat like us”* or *“to make them in captivity limits their natural instinct”*. On the contrary he has to protect it. To put Wolf in captivity is associated to jail it. *“Putting wolves in captivity is very cruel, it’s like a prison”*. Mytheme 2 invites respect Nature in general and the wolf and its territory in particular through the expression of reassuring images.

Mytheme 3 is illustrated by the following utterance :

“they’re an endangered animal and we need to protect them because they could become extinct due to the decrease in their population during the last few centuries. But (...) if they were to kill the wolves then I believe that they might as well kill the sheep too, I mean they’re both apart of life. Taking away the wolves just because the sheep are important to providing for the economy is unfair if you think about it. The best thing to do is put the wolves in safe captivity, having both animals alive and in safe conditions”.

To respect Life is a main principle of this mytheme. Wolf is considered both in danger and dangerous, useful (*“controlling the life stock that destroys vegetation”*) and destructive, and both polarities have to be considered. More particularly Wolf is not considered as a pest, but it regulates pests (Rabbits, Stoats, Possums). The human has responsibility to control it, but also to protect sheep and Wolf as well. Safety appears to be more important than freedom as expressed in the first mytheme. It can suppose a form of taming and domestication of the animal through *“land for the wolves with barrier making them unable to escape, but also feeding them at the same time”*. But the safety concerns also farmers (*“more of governement’s fault because they dont seem to care about the farmers”*) and more generally humans (*“putting up barriers that prevents them from entering where people reside”*). This third mytheme is characterized by caring for all forms of life through control and regulation.

All three mythemes expressed recur during the discussion (cf figure 3).



Figure 3 Expression of the mythemes during the discussion French/ New-Zealand students about the wolf issue

legend:

- mytheme 1
- ▲ mytheme 2
- ★ mytheme 3

Sign in white: French talk

Sign in dark: New-Zealander talk

(X): number of talks without expression of specific mythemes

Mytheme 1 is expressed 5 times by New Zealand students. Mytheme 2 is expressed 1 time by a New Zealand student, 11 time by french ones. Mytheme 3 is expressed 9 times by New Zealand students.

Each student retains the same mytheme during the discussion. Each student's argument was consistent with the myth he or she was referring to. For instance, A., the same student as mentioned above, was writing opinions that fell under Mytheme 2 (*“Wolves do that (attacking flocks of sheep) because they must eat like us, (...) it's life”*). The arguments that they then expressed in relation to the various proposals made by her or the participants reinforced the mytheme to which she referred. For her, *“putting wolves in captivity is very cruel”*, *“It's like a prison and they can't bear that!”*. The mythemes to which A.'s statements on the issues of the possum and the wolf are based on similar characteristics, of the freedom of the animal and a form of essentialization of life.

Analysis of the discussion about the Badger between French and English students

In the discussion about the Badger-cattle controversy between French and English students, two mythemes were observed: mytheme 1 is supported by verbs (*“disrupt the ecosystem”*, *“kills a lot of cattle”*), and metaphors (*“a nuisance”*, *“a source of infection”*) which makes the Badger an issue, a disturbance for Nature and human as well. This animal doesn't be considered to have positive specifications. Its existence is qualified and questioned according to its uselessness (*“I think the badgers are not important for the English people, they are useless”*) and its dangerousness (*“infectious deterring human life”*). Nature is seen as a combination of useful and useless living beings. Human is considered to have more value (*“humans are much higher in the animal kingdom”*) and as action, he has to kill Badgers. In other words, Humans dominate Nature (*“due to our natural selection are free to kill animals”*), and must control what is useful and useless for himself and for Nature.

Mytheme 2 is illustrated by the following utterance: *“They are useful to the biomass, if they were useless, nature would have gotten rid of them”*. Badger is judged through its usefulness for nature. Nature and life are seen as being a balance and *“badger culling will unbalance the food chain”*. Humans have to act fairly (*“Culling of badger is inhumane”*) respecting Nature and acting justly.

Although these mythemes do recur during the discussion they are not prominent (cf figure 4).



Figure 4 Expression of the mythemes during the discussion French/English about the Badger issue

legend:

- mytheme 1
- ▲ mytheme 2

Sign in white: french talk

Sign in dark: english talk

(X): number of talks without expression of specific mythemes

Mythemes 1 and 2 recur during the discussion. Mytheme 1 is expressed 4 times by French students, 4 by English ones. Mytheme 2 is expressed 3 times by French students, 5 times by English ones.

Each student maintains the same mytheme during the discussion and expresses arguments that support it. Z., a French student, who has a claim to mytheme 2, posts information found

on the internet stating that Badgers do not transmit tuberculosis directly through contact with cows but through grass. His interpretation leads him to exonerate the Badger ("*In fact, it's the grass, not the badgers that gives TB*") and to question any form of Badger eradication. His analysis is criticized by K., an English student who had a claim to mytheme 1, who replies: "*the source that you have just copied and read writes that the badgers spread the TB to the pasture and dung which infects the cows so badgers are still the primary cause of the TB spread. Not all grass has TB in otherwise it would be a disease everyone would have.*" There is a distortion in the interpretation of scientific data to try to support their mythemes: Z. considers the grass "guilty" and the Badger "innocent" of the tuberculosis transmission, K. generalizes the data to make badgers the primary cause of the disease (which the source of information does not claim).

Conclusion

The place taken by the mythemes in the discussion of students' positions as human actors can be depicted as *homo mythicus* (Méheust 1990). The contemporary human creates and lives myths and associates myths with lived experiences and with contextualised issues. The myths cannot be considered as having an anecdotal interest insofar as it is integrated or even it bases a reasoning, an argumentation. It means that the *logos*, as the dialectical exercise of reason, does not exclude the *mythos*, but both of them co-exist. In our study, we observe that the *mythos* orients the *logos* through the choice of arguments and the interpretation of data, but nothing allows us to affirm that the *logos* influences the *mythos*. No reasoning, no argument appeared to question the mythemes. These proved to be stable for each of the participants in the discussion.

Each discussion conveys no more than 2 to 3 mythemes. A first mytheme demonizes or depreciates the animal, considering it as dangerous for Nature and/or humans. Humans are considered more important than non-human animals. The animal is described through alterity in relation to the human. It can be reified or considered as a stranger. Nature in such case is associated with a territorial identity: animals are native of the region, or alien and in such case depreciated. The "pest"-animal must be killed or captured. The animal, considered as a disaster and associated with uncertainties generates discourses which could be assimilated to a call to the crusade and to the death sentence of the species (Campion-Vincent 1990).

A second mytheme "essentialises" the living, considers the animal as having a place in Nature, as being on the same level as humans, or even on a higher level, and can be supported by thinking based on values as respect for freedom or justice. In other words, the animal is considered through their similarities to humans. This mytheme is associated with symbols of Nature, *considered as a fragile balance*. It has its own natural laws to be respected.

When a third mytheme is expressed, it appears as an attempt to elaborate a dialogue between the first two. The animal is considered as a living being to respect, and at the same time its danger necessitates a control of the species.

The Possum and Wolf are greater triggers than the Badger. The first two are often qualified as enemies or companions, which is typical of the ambivalence of a symbol (Durand 1963). As a companion, the animal has commonalities with humans. As an enemy, it is considered as Other. Nevertheless, we can also observe some attempts at dialogue between these two polarities in a third mytheme, to realize the *coincidencia oppositorum*, both respecting the animal and the damage it can cause.

The Badger appears to promote fewer and less varied mythemes. This may be because the mythemes are more related to Nature in general than to the animal itself. The ethology of the Wolf and the Possum could stimulate the creation of myths more so than the Badger, the biological instinct being considered as mythical representations (Caillois 1972), for the humans, or, the nature of the contexts of the controversy might have an effect, considering that the badger has a central role as a mythic character in British literature (Barkham 2013).

The expression of the myth is associated with the socio-cultural life context of the participant. New-Zealand students express an imaginary related to the destruction of the Possum considered as a pest while the French argue for the freedom of the animal as part of Nature. Whereas the New-Zealand students urge for control of the Wolf, to separate its territory from that of humans, the French students summon symbols of freedom. The New-Zealand students appear to have an imaginary based on a hierarchy between humans and animals while the French would place them at the same level. It is interesting to note that while most New Zealand students see the Possum as a parasite to be eradicated, they do not see the wolf as a parasite to be eradicated. If it is a predator, it is also considered an endangered species. So the Wolf does not have the same status as the Possum. The fact that the wolf is indigenous, which is not the case for the Possum, may be part of the imagination of the New Zealand participants. There would then be a transfer of myth from one cultural context to another. We do not observe a clear difference between the French and the English students discussing the Badger. We cannot assume that the national identity is the only key-factor explaining these differences. The place where students live can also shape their imagination. In particular the situation of the French school in an urban environment can explain their positioning in favour of the wolf. As G., French student, writes: "*It may affect the farmers but we don't feel a crisis 'cause we're not living in the Alps or raising sheep*". The imaginary enables the construction of a view of the world which could be considered as social in the sense that gives Castoriadis (2017b) in that it creates a space of representations in which all members of the group participate. This seems to be the case for French students in the territory where they are located, none of whom question the presence of the Wolf in France. The myths are therefore part of a sociological imaginary to which they perhaps associate a radical imaginary.

Thus, with Durand (1963), we rehabilitate the imaginary as a place for reciprocal exchanges between instinctive, imperative and objective reasons emanating from the relation between perceptions of Nature and the social environment. We reflect on interactions between myth and rationality not through a radical duality of the human mind (the irrational mythic and the rational logos) as but rather through the forms of dialogue that they co-generate. The myth appears to play an ambiguous role with regard to reasoning: at the same time it can lead to distortions in reasoning, but it can also participate to an attempt of rationality and can be used as an argument to justify a decision. Then we do not think it is wise or possible to expurgate myths from talk in the name of a strict rationality. Myths allow us to interpret our forms of action and thought by which humans understand themselves in this world (Natanson 2001). But beyond a hermeneutic of the myth, the creation of debate between groups of students from different countries and social contexts, has enabled the confrontation of different imaginaries and myths and therefore of the arguments that supported them. It avoids a polarization of the imaginary which would threaten the psyche of a person or a group (Durand op.cit.). We consider important to create multi-cultural exchange groups with regard to the diversity of imaginaries. It also seems justified, as teacher or educator, to shed light on the imaginaries at stake in a discussion, a debate, to allow a better

inter-comprehension of the myths that animate each participant. More research could allow to deepen how the imaginary participates to critical, creative and collaborative thinking (Lipman, 2008).

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