

## Leisure on the Recreational Fringe

### Naturework and the place of amateur mycology and entomology

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Modern civilisation has spent great effort to control and sometimes exterminate insects<sup>3</sup> and fungi – often perceived as sources of danger. Yet, perhaps because of their threat, insects and mushrooms fascinate and intrigue, leading to attempts to analyse, categorise and even interact with these objects.<sup>4</sup> How can these natural domains simultaneously generate loathing and love, and in the latter case how does their appeal translate into a form of voluntary leisure activity – an activity that we describe as Naturework. Currently hundreds of recreational mycology and recreational entomology clubs are spread throughout North America and internationally, suggesting bonds of communal engagement in these leisure activities. In both domains, there exists a scientific community as well as a general public that along with amateur enthusiasts constitutes what Stebbins<sup>5</sup> terms a “Professional/Amateur/Public” system, communities that intersect with each other in various leisure settings, but with distinct traditions and interests.

We utilise the term “amateur mycology” to denote recreational interactions between mushrooms and people, also known as “mushroomers”, in leisure settings. We follow the argument of Latour<sup>6</sup> and his colleagues in Actor Network Theory (ACT) in that we see fungi (and insects as well) as active participants in the creation of shared meaning with their human collectors. While it has been conventional to see nature and natural objects as things that are “acted upon”, Latour argues that, even without conscious intention, objects shape meaning. People do not simply act upon objects, but objects act upon them. In this, the objects are, in effect, creating meanings that would not be possible without the interaction between person and thing. The meaning of the natural world cannot be developed without recognising that it results from mutual responses. Latour is not calling for a misleading anthropomorphism, but rather for a recognition that things in their “thingness” shape readings of the natural world. In recreational mycology, participants are focused on learning, identifying and ingesting mushrooms (in this latter case they are labeled as “pot hunters” in that they hunt for the cooking “pot”).<sup>7</sup>

However, as engagement increases, some hobbyists become interested in the ecology of mushrooms, photography, developing dyes from mushrooms or ingesting them as hallucinogens.<sup>8</sup> But it is not simply the examination of passive objects; mushroomers routinely see themselves as fundamentally in a game or contest with these objects that appear or disappear according to whim.<sup>9</sup> Accordingly, there is a growing body of evidence in entomology<sup>10</sup> and botany<sup>11</sup> that increasingly recognises the capacity of insects and “plants to assess, perceive, and act on their environment”.<sup>12</sup> Since we cannot justify the exclusion of fauna, flora and fungi on the uncertain basis of their sentience,<sup>13</sup> we should incorporate this uncertainty into our management approaches and codes of conduct.<sup>14</sup> By doing so we will instil a precautionary principle which addresses the limits of our understandings of sentience while also acknowledging that we have duties to non-human organisms whether they be fauna, flora or fungi.<sup>15</sup> It is in this sense that we can speak of mushrooms and insects as constituting active objects involved in interactions with human actors.

We use the term “amateur entomology” to define human-insect encounters in leisure settings and, more specifically, human encounters with Odonata (i.e., dragonflies and damselflies) for recreational purposes (e.g., symposiums, citizen science, festivals and touring conservation areas).<sup>16</sup> Following their conventional practice, these Odonata enthusiasts are labeled “dragon-hunters”. We build upon the parallels and differences between mycology and entomology and between mushroom foragers and insect enthusiasts by means of the concept of Naturework, grounded in a comparative ethnography of these social worlds.<sup>17</sup> Naturework argues that the interaction between humans and those objects they define as “natural” is fundamentally cultural and is dependent upon how humans interpret the actions, growth, appearance and disappearance of plants and animals. In other words, responding to the environmental surround is inevitably an act of cultural contemplation. Making this argument, we treat human engagement in natural domains as a form of performance, addressing the similarities and differences of mushrooming and dragon hunting. Leisure pursuits such as those sought out by recreational entomologists and mycologists can bring these activities into conflict with conservation principles and, on occasion, with self-proclaimed environmentalists. How should conservation be defined, and what should be permitted in protected areas? Proponents in both activities advocate that a greater awareness of fungi and insects through outreach strategies is essential for situating humans as actors within an environmental surrounding. Yet, these strategies, as we discuss below, create their own challenges.

### **Naturework as cultural engagement**

Naturework builds on an interpretivist analysis of what individuals do and say when interacting with animals and plants and how these interactions are perceived and interpreted.<sup>18</sup> Environmental problems, like other social problems, do not simply “exist” but must be elaborated and understood within interactional domains, characterised by local group cultures.<sup>19</sup> In other words, Naturework is inevitably situated within an interaction order.<sup>20</sup> This does not deny the independent causal powers of nature but asserts that behavioural, emotional and cognitive interpretations of these meaning worlds depend upon the needs and meaning-making structures of communities.<sup>21</sup> Fine

specifies these forms of meaning construction and their ensuing values and relationships as linked to three ideal strategies of conceptualising nature.

a) Humanist vision: Often defined under the rubrics of the “wise use movement” or “sustainable development”, the ethic of balance or conservation of natural resources for future human generations is popular with utilitarian and scientific interpretations of humanist ideals. The moral divide defined by intelligence, language and sentience, between nature and humanity, and such anthropocentric notions that nature is provided for humanity, ensures that, from this perspective, human interest will always take precedence over other concerns (e.g., fauna, flora or fungi).<sup>22</sup>

b) Protectionist vision: Challenging practices of sustainable management and conservation philosophies espoused by humanists, this vision emphasises the protection of certain ecosystems and/or wildlife from encroachment, exploitation and other anthropogenic harm through policies and legislations.<sup>23</sup> Under this vision, certain “systems” such as ecosystems or species (e.g., those that are threatened or endangered) may have certain rights that individuals do not.

c) Organic vision: Unlike the previous two visions, where culture and nature are separate entities, the organic vision presupposes that no firm line divides human life and natural life. Hence, humanity is simply one component of an organic whole with no particular privilege.<sup>24</sup> The basic premise of the organic perspective is that all entities have a moral and ethical status based upon their existence. Not to recognise the moral worth of non-humans from this perspective is to commit a moral offence, often labeled “speciesism”.<sup>25</sup>

Each of these approaches presumes and specifies natural objects as having an active role in the creation of ties between the cultural and the natural, even if humans, with greater immediate power and resources, often override these roles, acting from their own self-interest. All three perspectives are evaluated through the lens of human morals and ethics. Indeed, whether one seeks to use, protect or embrace nature, the response in every case “is mediated through both idealised images of the environment and personal desires”.<sup>26</sup> All leisurely pursuits whether they occur in the recreational fringe (activities that lie outside of the leisure commonplace, but are nevertheless practiced by a number of communities and are organised through associations, newsletters, websites and social media) or in the cultural mainstream, are conceptualised and managed by humans for their own interest.

As noted, both Fine and Lemelin conducted ethnographic studies, complemented by interviews, surveys and document analysis on mushroomers and dragon-hunters in the United States and Canada.<sup>27</sup> Apart from the analysis of mushroomers and dragon-hunters, Naturework has been applied to other nature domains such as the cultural position of sparrows in North America<sup>28</sup> or tourists’ perceptions of authenticity and natural places.<sup>29</sup>

## **Mushrooms, Odonata and their people**

At first glance, a study building on the links between insects and mushrooms may appear peculiar since insects are affiliated with the Animalia kingdom while mushrooms are members of the kingdom Fungi. Putting aside phylogenetic differences

and the occasional parasitical relationship, several commonalities connect insects and mushrooms. For instance, both are abundant and notable in our lives. According to the Xerxes Society (a not-for profit organisation dedicated to the conservation of insects and other invertebrates), some estimates suggest that 94 percent of the animals in the world are invertebrates.<sup>30</sup> The estimated 1.5 million species of fungi are “second only to insects in number and diversity” and many of them have yet to be identified.<sup>31</sup> Animals and fungi share “80 to 85 percent of the same ribosomal RNA (where proteins are manufactured inside the cell)”.<sup>32</sup> Cases of symbiosis between fungi and insects (e.g., fungi-growing beetles, wood wasp, leafcutter ants and termite colonies) have been documented.<sup>33</sup> In contrast, it is also true that fungi like *Cordyceps*, a genus of ascomycete fungi, have been known to parasitise the ghost moth caterpillar and bullet ants, eventually killing their hosts.<sup>34</sup>

From a social perspective, humans have referred to insects and mushrooms in myths and lore, introduced them in the culinary arts, incorporated them in scientific studies, described them in books and guides and produced documentaries detailing their “habits” and “habitats”. In contemporary times in some European countries like Russia, Finland, France and the Czech Republic “mushroom hunting is a national sport”.<sup>35</sup> With ponds, specialised trails, conservation areas and festivals dedicated to dragonflies, Japan’s fascination with Odonata is comparable.<sup>36</sup>

According to both Bone and Fine, there are thousands, if not millions, of mushroom enthusiasts in North America alone. The hobby can be traced back as far as the 1880s.<sup>37</sup> The more passionate and organisationally-inclined belong to “at least 95 mycological societies [...], three regional clubs, and one national club. There is also a professional organisation, the Mycology Society of America that organises conferences and sponsors the popular scientific journal *Mycologica*”.<sup>38</sup> In addition, for more activist hobbyists, the North American Mycological Association sponsors forays and other events.

Similar to mycology, in which America lags behind Europe, fascination with insects in North America is limited when compared to Japan, yet today, a number of entomological societies, symposiums and festivals, citizen science projects, websites, insectariums, butterfly pavilions and educational outings are available throughout North America.<sup>39</sup> Many zoos have established butterfly houses for their visitors to engage with the bright and colourful insects. Associations like the Xerxes Society (est. 1971) and Buglife, The Invertebrate Conservation Trust (est. 2002), have been established to protect and educate the public on the benefits of invertebrates.<sup>40</sup> With regard to dragonflies, conservative estimates place the number of individuals belonging to odonate associations at over 4,500 worldwide.<sup>41</sup> The number of individuals who examine Odonata in recreational settings increases dramatically if participation in dragonfly symposiums and citizen science projects are included.<sup>42</sup> While this public interest trails mycology, it is still impressive, given that insect leisure rarely reaches public consciousness.

Researchers have also documented the human fascination with fungi and insects throughout history in the form of ethnomycology<sup>43</sup> and cultural entomology.<sup>44</sup> Ethnographic studies<sup>45</sup> describe how societies draw upon fungi and insects to provide a sense of the world. For example, the studies by Fine describe how participants seek out

the activities of mushrooming because these experiences provide opportunities to hike through forest and fields, the thrill of discovery, the exhilaration of capture, and, on occasion, the delight of consumption of natural objects.<sup>46</sup> Lemelin in his study of dragon-hunting reached similar conclusions. Facilitating the growth of both of these recreational activities is the availability of books and field guides, videos and DVDs, and festivals,<sup>47</sup> creating an economic penumbra around the activity and permitting enthusiasts to profit from their avocations.

Some researchers, recognising the emotional economy of leisure, have focused on the fears (mycophobia/entomophobia) and affection (mycophilia/entomophilia) associated with fungi and insects. Each has its own structure of sentiment. For example, many citizens of Continental Europe and Asian countries like China, Japan and South Korea are mycophilic.<sup>48</sup> North Americans of English and Spanish descent are generally mycophobic and entomophobic.<sup>49</sup> Mycophobia and entomophobia in North America have been associated with generalised fears of nature and a desire to control the wild within an urban society, backed by supportive media narratives.<sup>50</sup>

Certain studies suggest that increasing interactions with nature can prove beneficial in increasing mycophilia and entomophilia.<sup>51</sup> The more contact with corners of nature, the greater the level of interpersonal and group comfort. In his analysis of recreational mycologists, Fine noted that, despite their expressed affection for all things fungal, collectors awarded different values to species depending on their colour, shape, and edibility. As a result, morels and truffles are highly prized and sought out, while other species like the “little brown mushrooms” of indeterminate species go unnoticed or are scorned humorously. Lemelin found similar patterns in the Odonata world with hobbyists preferring larger lively dragonflies over the smaller, more delicate damselflies. Lemelin suggests that these encounters, whether based upon love or hate, are cultural, contextual and dynamic.<sup>52</sup> Further, a lack of critical reflexivity regarding the broad presence of these phobias and philias and the acceptance of these concepts by some researchers as natural, resembles what Macnaghten and Urry have labeled as the quest for a single unfolding understanding of human-animal or human-plant interactions.<sup>53</sup> This quest for dichotomy has resulted in the exclusion of insects and mushrooms from leisure and recreation as their imagined danger and disgust places them outside normal boundaries of aesthetics and satisfaction.

### **The moral challenge of collection**

We turn to one of the most contentious areas in both hobbies: the gathering and capture of objects by hobbyists for their own collections. In a culture that accepts many claims of the environmental movement, picking mushrooms and capturing insects – removing them from the wild – seems contrary to the mantra: take nothing but photographs, leave nothing but footprints. To “take” something becomes especially troubling when it can be defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct”.<sup>54</sup> Yet, these hobbies often depend, for motivated engagement, on hunting and gathering. In *Morel Tales*, Fine examined the contentious debate around overpicking. Titling this tension as constituting “mushroom wars”, Fine illustrates how concerns regarding the regulation

of this activity were voiced by amateurs and professional pickers alike. In some instances, these activities polarise participants, creating division, while in other situations members have opted for a live-and-let-live mentality. Participants agree to disagree, hiding their distinctive philosophical stances about the relationship of self-interest and being an environmental steward. Often the debate was localised as the issue of picking in some locales like Minnesota was not perceived as a problem, whereas in California the debate was fierce and focused on “private entrepreneurs – naturalists themselves – who pick mushrooms and sell them to restaurants and gourmet shops”.<sup>55</sup> In the Pacific Northwest even despite the growth of alternative “mushroom picking” areas (i.e., Asia) that have driven down the price of wild mushrooms, the tensions regarding picking remain high.<sup>56</sup> The debate about the commercial harvesting of wild mushrooms and the resultant overpick can be understood in light of the three ideal types (i.e., using, protecting and embracing nature) previously described.<sup>57</sup>

Proponents of the utilitarian perspective argue that they have a fundamental right to use nature, particularly since the research regarding overpicking is inconclusive. As a consequence, these activities are seen as providing an essential benefit to human participants. Nature from the utilitarian perspective belongs to everyone. Critics of the ethos of collecting, they argue, “are motivated by selfish interest”<sup>58</sup> since they want their private mushroom preserves (often located on government lands) funded and protected by public money.

Nature from a protectionist perspective is especially vulnerable to anthropogenic activities (e.g., harvesting) that compromise a “natural balance”. From this view, humans must minimise such impacts through protection and conservation strategies. Any compromise implicitly promotes species extinction.<sup>59</sup> By embracing what they define as the common good, protecting species that would otherwise be collected, proponents of the organic perspective argue for cherishing instead of defiling, sustaining instead of exploiting and “re-creating” our bonds with nature instead of commercialising these interactions. Collecting for personal or commercial gain “depicts the excesses of those who care little about the moral effects of their actions”.<sup>60</sup>

At the heart of these conversations is not whether humanity has the right to pick mushrooms, for this debate pertains solely to where, when and how many mushrooms can be picked and by whom. The question is one of interests and resources in that collecting mushrooms represents a typical instance of the construction of a social problem with all sides using preferred narratives to define and justify their use of nature.<sup>61</sup>

In recreational entomology, the collection of insect specimens, separate and apart from institutionally legitimated scientific purposes, has emerged as one of the most controversial aspects of dragon-hunting with some participants, especially those espousing organic philosophies, suggesting that the collection of specimens for recreational purposes violates the requirement to do no harm, and demonstrates an antiquated philosophy of showcasing one’s dominance of nature. Since much entomological leisure is predicated on the collection and systematic identification of specimens through taxonomy and binomial nomenclature – processes established by Linnaeus in the 18th century<sup>62</sup> – these challenges to collecting were frequently met with scepticism, with some utilitarians suggesting that these notions carry-over from

recreational activities involving vertebrates (e.g., birds or fish) to invertebrate animals and with protectionists suggesting that the arguments have no place in the insect world.<sup>63</sup> Entomological criticism aside, specimen collection, as Lemelin noted, is a concern recognised by current participants and will likely continue to arise as new individuals are attracted to dragon-hunting.<sup>64</sup> Therefore, group leaders and entomologists would be well-served to discuss collecting and why specimen collecting is, in some cases, necessary.<sup>65</sup> In some situations, the incorporation of catch and release assisted by digital photography could and does help address this issue.<sup>66</sup>

### **The challenge of Naturework**

Ethnographic studies relying on Naturework document the appeal of insects and fungi and provide opportunities to understand leisure activities occurring on the recreational fringe. Cloaked in morality and beliefs about rights, these debates typically take the form of being more about the protection of certain types of mushrooms and Odonata, and less about the conservation and protection of fungi and insects in general. It is essentially about the continuation of one's leisure activity within a local action domain. Self-interest merges with ethical claims.

Some researchers postulate that mushrooming and dragon-hunting reflect a growing empathy for natural objects.<sup>67</sup> However, it is questionable whether these trends in leisure and tourism activities are indicative of sympathy for nature or a decline of entomophobia/mycophilia. Indeed, it may simply mean that leisure today "is indissolubly mixed up with the twin global ethical imperative of care for the self and care for the other".<sup>68</sup> Further, as Kuentzel has suggested, leisure participation may be less a question of achievement and skill perfection, and more about the growing diversity of recreational opportunities and the commercialisation of leisure experiences.<sup>69</sup>

That mushrooms and dragonflies have been incorporated in leisure and conservation strategies suggest that some fungi and insects are effective and compelling subjects for conservation claims, nature interpretation and public education. The promotion of these recreational activities through outreach strategies like festivals and citizen science has been successful in attracting new participants to these activities.<sup>70</sup> The arrival of these novices with various levels of commitment and from different socio-cultural backgrounds brings new challenges and opportunities to leisure organisers, since some of these new actors challenge picking and insect collections; avoiding these critiques or dismissing them outright will simply compound the issue and may deter some from further engagement. It is also suggested that picking and collecting be addressed through the establishment of consensually endorsed codes of conduct.

If activities in other jurisdictions (e.g., Europe) and within similar recreational activities (i.e., hunting, fishing) are any indication, the management of recreational mycology and entomology will likely increase and may lead public venues to restrict the collection of fungi or insect specimens. For protectionists, management strategies and endangered species listing are welcomed. However, these regulations are, in practice, only sporadically enforced and threats to mushrooms and insects are underplayed.<sup>71</sup> While there is evidence that the rate of extinction is the same for fauna,

flora and fungi, insects and mushrooms are drastically underrepresented in endangered species legislation, whether at the state, provincial or federal levels in Canada and the United States.<sup>72</sup> According to the 2012 International Union for the Conservation of Nature (IUCN) Red List of Threatened species, there are 776 insects and 1 mushroom listed as threatened species in 2012.<sup>73</sup>

In his analysis of animal studies, Lemelin observed that insects and other invertebrates are often overlooked in favour of vertebrates (e.g., pets, domestic animals and charismatic macro-fauna).<sup>74</sup> Although insects are earth's most abundant animals, there are many more biologists and ornithologists than entomologists, suggesting that what we study and the resources allocated to these studies are largely predicated on social perspectives. Critiques of these management strategies also point out that few agencies have any trained mycologists or entomologists on staff who can understand, describe and manage these leisure activities.<sup>75</sup> Therefore, it is crucial that recreational mycologists and entomologists (like hunters and fishers before them) shape the management decisions that affect their leisure activities. As Fine noted, the fact that nature is perceived through cultural lenses:

does not diminish our policy choices. We cannot and must not rely on scientists [or politicians] to control our decisions, even though we learn from their insights. To recognise that nature is cultural is to accept our responsibility as beings whose impact on the world will be great, whatever choices we make. Each perspective on nature recognises the fateful quality of human decisions. Because we are cultural beings, we must recognise the inescapable necessity to make collective choices, for these choices are what environmental ethics entail.<sup>76</sup>

While we begin by examining a pair of seemingly disconnected leisure worlds on the edge of recognition, the concerns of these participants matter. As in so many other cases of leisure, those who participate voluntarily in a social world may be seen as having the greatest amount of expertise and knowledge that can be drawn on to determine how societies should shape their environmental policies. In this way mushrooming and mushroomers and insect enthusiasts and their dragons serve not only as isolated domains of local action, but as resources by which societies can structure larger choices of the relationship between the human and the environment.

## Notes

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