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‘On the Border Territory Between the Animal and the Vegetable Kingdoms’:[1] Plant-Animal Hybridity and the Late Victorian Imagination

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ABSTRACT

The increasingly comprehensive scope of the natural sciences in the Victorian period often yielded discoveries that complicated the sureties of past centuries, with few more so than the discipline of botany. From the phenomena of carnivorous plants, to animal organisms that seem to photosynthesise, there were a string of new discoveries that seemed to undermine traditional definitions of the ‘Animal’ and ‘Vegetable’ kingdoms. This article explores these perceived instances of animal-plant hybridity in both the scientific writing and Gothic fiction of the Late-Victorian period. Approaching both the factual and fictional accounts through the lens of contemporary ecoGothic criticism, it unpicks the mutual preoccupation that both forms felt in regard to the threatened collapse of the long-standing binary of plant/animal. In doing so, it suggests that speculative scientific work by figures like John Hogg, Ernst Haeckel, and T.H Huxley provided a wealth of inspiration for writers of sensational popular fiction of ecological horror, including Maud Howe Elliott, Lucy H. Hooper, and Algernon Blackwood. Their Gothic tales in turn proved to be the ideal medium through which the unsettling consequences of these discoveries could be articulated, with tales of plant-animal (and plant-human) hybrids, depicting the newly compromised terrain of plant/animal hybridity in the popular imagination. In considering the hybridised imagination of the period in this way, the article demonstrates the extent to which ecoGothic concerns permeated nineteenth century fictional and scientific conceptions of the natural world, inviting reflection on the relevance of these narratives to the ecological concerns of today.

[1] The title of an 1876 lecture by Thomas Huxley, as it appears in (Huxley, 1902, p.162-195).

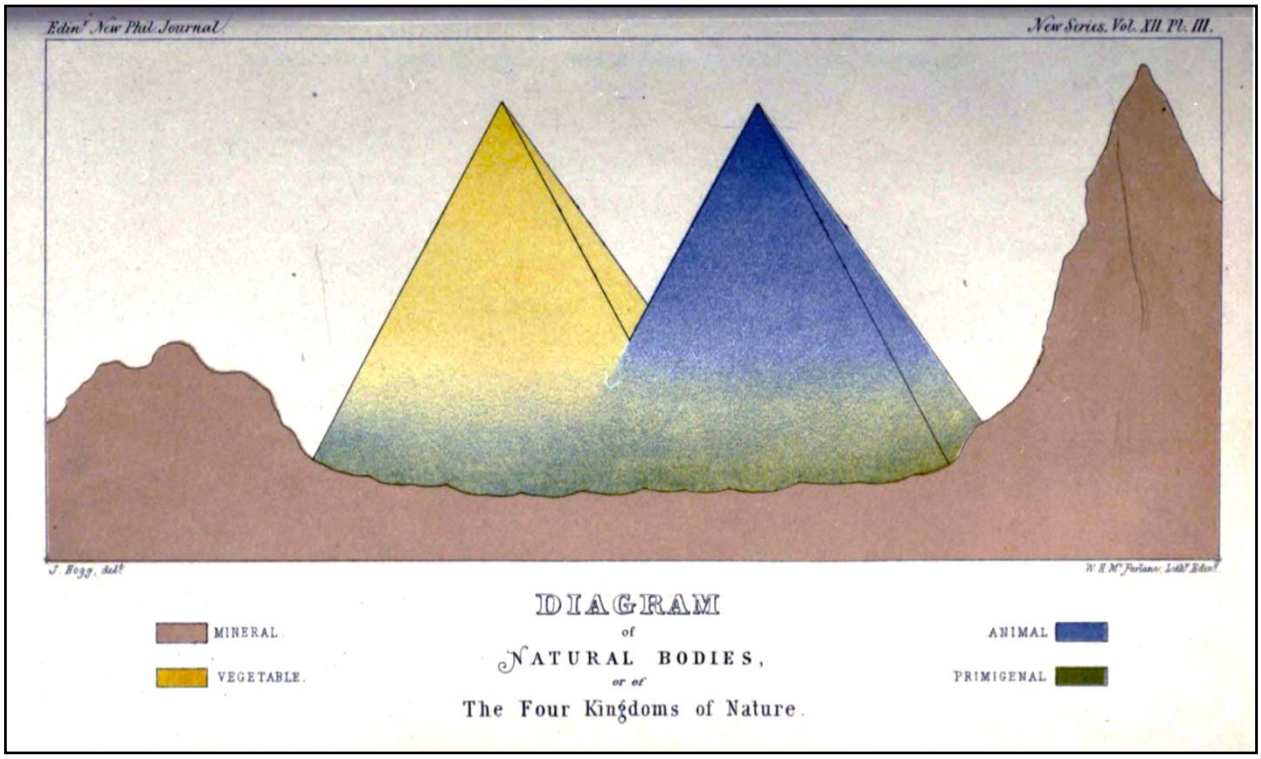

Figure 1: Plate 3 from John Hogg's 'On the Distinctions of a Plant and an Animal, and on a Fourth Kingdom of Nature', which appeared in *The Edinburgh New Philosophical Journal* volume 12, 1860 – the diagram attempted to map out the terrain of the 'kingdoms of nature' with animal, vegetable and mineral forming three distinct peaks and Hogg's own 'Primigenal' kingdom forming the indistinct base.

Regnum Animale, *Vegetabile*, and *lapideum*: more commonly known to us as the animal, vegetable, and mineral kingdoms. These were the three orders of life laid out in 1735 by Carl Linnaeus, the 'father of modern taxonomy' (Schiebinger, 2003: p.5), to encompass all natural phenomena on the planet. The aim was to provide an ordered system of categorisation, characterised by a series of clear divisions and distinctions. This task, however, would prove anything but simple. The unruly complexities and contradictions of the natural world were immediately evidenced by Linnaeus' addendum to his kingdoms, like the subclass of 'zoophytes'—ambiguous leftover organisms, like coral or protozoa, which are seemingly plant *and* animal at once—and then further underlined by the reams of taxonomic literature produced in the following centuries, in which scientists struggled to wrangle countless new species into Linnaeus' rigidly compartmentalised system, demonstrating that what were once thought of as absolute and impassable boundaries between forms of life were actually far more permeable. This article examines the discursive merging of plants and animals that took place in the late nineteenth century, highlighting its relevance to theorisations of the ecoGothic and its impact

on the collective imagination of the period. Recent scholarly interest in the subject of plants in the nineteenth century has unearthed increasingly fluid conceptions of nature, with Lynn Voskuil (2017) in her study of nineteenth century orchid literature demonstrating 'the readiness of many Victorians to conceive of boundaries between species as fluid rather than absolutely fixed' arguing that these can be viewed 'as a prescient example of interspecies awareness' (p.20). With the possibility of inter-species connections slowly coming to the fore, late Victorian Gothic fiction thrived on this fertile source of inspiration, imagining the arboretum of horrors that could emerge from the breakdowns in special boundaries. Read alongside contemporary ecoGothic debates, we see how both well-known figures such Algernon Blackwood and Ernst Haeckel, as well as more marginalised authors like Maud Howe Elliott and Lucy H. Hooper, engaged with the fears provoked by the crumbling of conventional ideas of organic categories and hierarchies. In doing so, we are able to interrogate how these texts captured the popular imagination, feeding a new vision of the natural world that saw plants merging with animals and humans in increasingly complex and terrifying ways as the century wore on.

With its dual-attentiveness to uncanny portrayals of non-human life and the latent terror they can inspire, the contemporary critical discourse of the 'ecoGothic' has often been retroactively applied to Victorian ecological anxieties. The term, understood here as a formal and critical acknowledgement of the overlapping of natural phenomena with the malignant visions of the Gothic imagination, is particularly useful in its unravelling familiar and 'natural' renditions of ecology. Dawn Keetley and Matthew Wynn Sivils' introduction to *Nineteenth Century Ecogothic* (2018) highlights the consistent splicing of natural elements within the ecoGothic, 'interpenetrating' and 'intertwining' species together in unfamiliar and sometimes violent ways that 'challenge humans' own vaunted ability to shape their world' (p.7). A process that, as we shall see, was commonplace in the fiction of the period. In 'Defining the Ecogothic', the introduction to their 2013 collection *Ecogothic* (2013), Andrew Smith and William Hughes highlight the 'crisis of representation' (p.2) in nature as a constitutive feature of the ecoGothic, citing a fear of an 'ambivalent' and 'blank' natural world devoid of rational meaning or governing principles.

Plants in particular are noted by Smith and Hughes for their disturbing evasion of definition – an idea that has been later explored by other critics working within the field of the ecoGothic. Dawn Keetley (2016), for example, makes the case for an especial consideration of

'Plant Horror'. She argues that the plant world's 'refusal of known categories' enables them to 'lurk perilously close to the very definition of the monstrous' (p.8). Such monstrosity is not strictly the kind embodied by the large, anthropomorphic creatures most readily associated with horror and the Gothic, but can more accurately be understood as a latent threat or complication to systems of knowledge, or to quote Georges Canguilhem's 'Monstrosity and the Monstrous' (2008), 'the existence of monsters calls into question the capacity of life to teach us order' (p.134). This indecipherable nature of plants stems in part from their sheer difference from humans as organic beings; their lack of a discernible face or body, their static nature, apparent passivity and their unique means of nutrition mean that they are existentially estranged from human beings in a way that is far more pronounced than any animal. It is precisely this 'alien nature of the plant', as Elizabeth Chang (2017) argues in 'Killer Plants of the Late Nineteenth Century', which is able to 'challenge the gap between vegetable and human' in narratives that confront the reader with agentic plant-life (p.85). When imagining a being that simultaneously inhabits both the plant and animal kingdoms, one is presented with a living contradiction: something that is both familiar and otherly, sentient and inanimate, inert and predatory – a wholly ecoGothic subject.

This essay provides insight into the shifting terrain of biological knowledge in the late nineteenth century by interrogating the scientific and literary imaginings of plants of the period through the lens of the ecoGothic. It also seeks to contribute to the emergent and ongoing interrogation of literary uses of plant life in the late-nineteenth century by scholars like Cheryl Blake Price, Jane Desmarais, Katherine E. Bishop, Elizabeth Chang and Jim Endersby, as this long-neglected facet of literature enjoys a critical renaissance. Beginning with specific examples from scientific debates of what constituted an animal, vegetable and everything in between, it reads these early speculative as an ancillary precursor for the ecoGothic imagination – tearing down old categories and opening up room for new theorisations of the two kingdoms and humanity's place within them. The second section examines the relationship between these taxonomic conflicts and the literature of the period, especially the Gothic's sensational and disquieting tales of animalistic plants. Texts have been chosen to illustrate the various ways that discoveries in biology of the period were reconfigured into a veritable garden of hybrid vegetable monsters, teasing out the unity of fictional and non-fictional works in serving to complicate long-held anthropocentric belief in humanity's place as being above the biological entanglements of animals and plants. In doing so, I set out to contribute not only to a more nuanced picture of the shifting terrain of the Victorian

understanding of nature, but also to demonstrate how these nascent ideas of the natural world continue to persist, even up to our own historical moment of 'biogenetic revolution'(Žižek, 2011: p. x).[2] Though separated by a century, what emerges when examining the scientific accounts alongside Gothic stories of the late nineteenth century is the familiar feeling of a perceptible departure from the sureties of the Enlightenment: a depiction of a natural world with blurred edges – from which all manner of strange and 'unnatural' beings could materialise.

I. *The Middle Kingdom*

To understand how this paradigm of a hybridised natural world emerged, it is worth dwelling on the unique historical contexts of the nineteenth century. As a result of advancing strides in areas like global exploration, microscopy and palaeontology, specimens from previously unknown times, scales and places were converging on the scientific institutions of Europe. This deluge of bio-diversity problematised the precepts of established taxonomy and exposing the narrowness of preconceived categories. Interestingly, over one hundred years later, noted ecocritic Stacy Alaimo (2010) argues that we *still* need 'more capacious epistemologies' (p.2). Alaimo's theorisation may seem anachronistic within the historical contexts of the nineteenth century; however, as will be demonstrated, many of the primary sources detailed here reward—and in some ways even anticipate—a retrospective reading using modern ecoGothic parlance. Alaimo's, theorisation of 'trans-corporeality' is especially useful in conceptualising the 'interconnections, interchanges, and transits' (p.2) that were found to exist between previously incompatible lifeforms such as plants and animals in the nineteenth century. Her definition of 'trans-corporeality' from *Bodily Natures: Science, Environment, and the Material Self* (2010) describes the enmeshing and inter-penetration of 'human bodies and nonhuman natures' (p.2). However, by expanding the term from the explicitly anthropic, to a relational entanglement of all living natures, 'trans-corporeality' can be used to capture the fears of chaos that accompanied the various theories of inter-species relations and universal common descent that abounded at the time.

Though the term 'trans-corporeality' is a recent invention, many of its essential ideas—such as the inevitable imbrication of the human and the non-human—find expression in the

[2] Meaning the application of scientific breakthroughs of genomic mapping through the alteration or synthesis of organisms; identified by the philosopher Slavoj Žižek as one of the potential 'four riders of the apocalypse' (Žižek 2011 p. x).

Victorian period. For instance, in 1859 with the publishing of Darwin's theory of natural selection, that organisms were defined by their adaptation to their environment, and the ensuing view of a disorganised natural world in a constant state of flux. The implications of Darwin's theory dealt a significant blow to classical taxa, already buckling under the combined weight of new and unaccountable species, and the vacuum of understanding that followed provided an opportune moment for issuing challenges to previously unquestionable classificatory systems. One such proposition came a year later from the naturalist John Hogg (1800-1869), who published a paper adding a fourth kingdom to Linnaeus' triadic system in order to properly house and organise the intermediate beings that strayed between plants and animals. Hogg was careful to frame his proposition not as an attempt to undo the work 'of the illustrious Swede' (Hogg, 1860: p.220), but merely as an update to reflect changes in understanding. By Hogg's own admission, 'the *definitions* given by Linnaeus must at this day be considered as insufficient and much too concise' (p.220); therefore, in order to maintain the project of classification, it was necessary to make allowances to accommodate the fugitive species caught between kingdoms.

Hogg's solution to this perceived deficiency was to create a new precinct of classification, the '*Primigenal* kingdom'. The name, a variant on the Latin *primigenius*, meaning literally 'first birth', was chosen as the kingdom was to contain the most primitive, indistinct microscopic and unicellular organisms that make up the 'lower' or 'primary organic' lifeforms, including 'those formless or amorphous beings' (p.223) that permeated the boundaries between vegetable and animal. Hogg imagined his fourth kingdom existing 'beneath' or 'between' the two kingdoms of vegetable and the animal at the point where the 'line of demarcation between [...] these two kingdoms' (p.223) was at its most blurred. To illustrate his point, Hogg translated these abstract taxa into a graph (*fig. 1*: Hogg, 1860: pl.3), constructing the two great pyramids of organic life. Hogg harnesses the gradation of angle and hue to show the degrees by which the two classes of animal and vegetable diverge or mingle at different stages:

> 'The *blue* indicates the animal kingdom; the upper or dark blue signifies the more perfect condition of animality; whilst in both pyramids, as the beings descend toward their base, they lose by degrees their chief characteristics respectively; and this is designated by the paler yellow and paler blue; and at

> length these two colours gradually blend or unite, and so constitute together the colour *green* in the base, common to both pyramids.' (p.224)

Though intended to shore up the distinctions between plant and animal, Hogg's graph can also be read as an indictment of attempts to definitively separate the animal from the vegetable. Indivisible from the immediate scientific context of Darwin's *Origins*, it displays a distinctly *evolutionary* progression of natural selection in the two kingdoms of 'animal' and 'vegetable' in organic life. Having the murky *Primigenal* kingdom as the common ground from which the two pyramids spring forth suggests that they share a common ancestry; the name *Primigenal* establishes the proposed kingdom's position as progenitor of both orders of life. With these indistinct and ambiguous kingdoms peopled by amorphous and mysterious organisms acting as the mutual base, the more 'perfect' specimens higher up the pyramid necessarily rest on shaky foundations. They are not only born, originally, from disturbingly 'imperfect' and nebulous life forms, but seem—when we look at the graph's open and intangible variations in colour—potentially vulnerable to degeneration and transmutation.

In this respect there is more than a touch of the *trans-corporeal* about Hogg's diagram. As Alaimo (2010) states, the inclusion of '*trans* indicates movement across different sites', thus the shared point of contact between the two kingdoms becomes a conduit, 'emphasising the movement across bodies' and 'reveal[ing] the interchanges and interconnections between various bodily natures' (p.2).[3] The fourth kingdom—much in line with some of the themes of this journal—served as a challenging, indistinct, almost '*Gothicised*' classificatory space, providing avenues into both animal and vegetable subjectivity, it potentially allowed beings to occupy, or even colonise parts of the other kingdoms' territories. A concept now long-familiar to modern audiences of science fiction, but a profoundly novel phenomenon in the nineteenth century and one that would go on to inform a whole host of ideas about nature and the Gothic.

[3] Such a reading is enriched when one considers which 'bodies' are being referred to in Hogg's diagram; if we read Hogg's pyramids themselves as two inter-mingling combinatory bodies, there is an obvious shared co-mingling that can be read as transcorporeality. But it is worth noting the pyramids are representative and are, therefore, constituted of all the millions of different species that fill the respective taxa of 'animal', 'vegetable' and 'primigenal', who are themselves transcorporeal, blurring into one another through evolutionary progress and in the case of the primigenal, often living inside other larger organisms. Thus, both on the macro- and micro- scale, the graph demonstrates the repeated inter-penetration and complex co-relations between the three kingdoms.

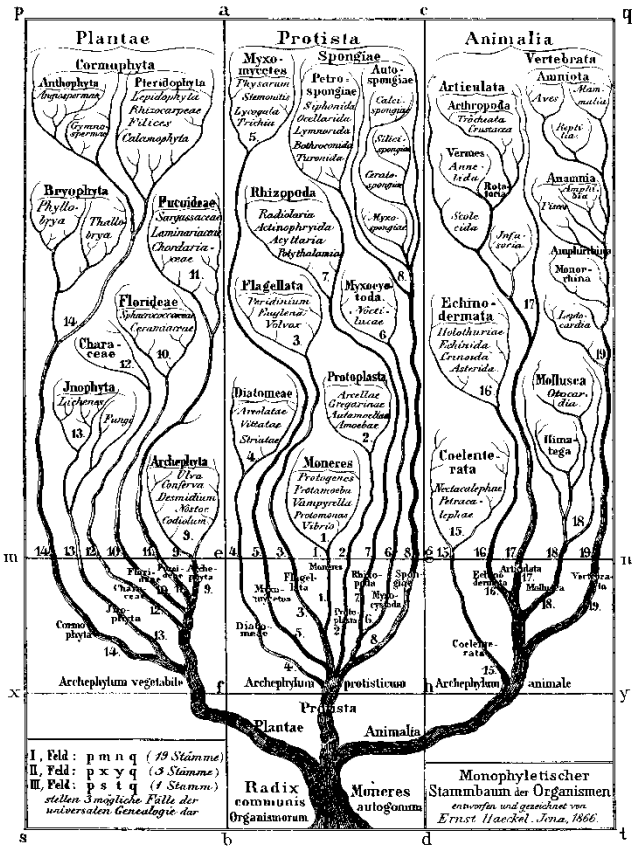

Figure 2: Monophyletischer Stammbaum der Organismen from Haeckel's *Generelle Morphologie der Organismen* (*General Morphology of Organisms*) (Berlin: Georg Reimer, 1866)

Following Hogg, many aspiring biologists attempted to stake their claim as to exactly where the two kingdoms diverged and which extant characteristics of plants and animals could be preserved. One such attempt was made by Ernst Haeckel (1834-1919) in his works *Generelle Morphologie* in 1866 and *The History of Creation*, appearing in English in 1876. Haeckel adopted a similar approach to Hogg, proposing a modal shift in classification with his own kingdom of *Protista*, this time from Ancient Greek: *prôtos*, meaning first or original, an early or primitive approximation of existing forms. Like Hogg's, this kingdom contained the troublesome indeterminate beings that were neither immediately plant nor animal, like sponges and micro-organisms. Haeckel likewise placed the kingdom at the boundary between animals and plants, displaying them as branches of a tree—interestingly drawing on plant life itself in his classificatory structure—as opposed to Hogg's shaded pyramids (*fig.2* Haeckel, 1866, pl.1). All three branches spring from a common root, a kingdom for 'single-celled organisms' he

called *monera*,[4] from which '*all many-celled animals and plants were originally derived'* (Haeckel, 1876: p.40). Despite providing an intermediate kingdom and suggesting a common ancestor, Haeckel maintained that the divisions between the kingdoms remained absolute 'in several distinct lines' (Sapp, 2009: p.40). These conceptual lines prevented branches from crossing and intersecting, curtailing the disquieting nuances of cross-kingdom trans-corporeality that are possible in Hogg's model.

Haeckel's (1876) conception of these natural kingdoms with hard borders can be understood in connection to his commitment to what he called 'knowledge of "the Natural System"' or 'the *pedigree* of organisms', which he considered the 'highest problem of biology' (p.37). He described natural history as 'structural'; a network of '*blood relationships*' (p.36) that could be traced, understood, delineated, and most importantly, categorised. Haeckel took particular issue with Darwin on this ground, stating that he only expressed 'his conjecture[s]' and treated the issue of origins 'in a general way', with no attempt to 'carry it out specially' (p.37) – that is, systemically. Haeckel's tree of life conveyed an idea of clear progression and association, the organic form showing a recognisable line of evolution, with each kingdom and stage remaining neatly within its ordained quadrants, bypassing the blurred entanglements of plant-animals in Hogg's pyramids.

Haeckel's systematic division, however, becomes impossible to maintain when one reaches the base of the tree and the *monera*, 'the most ancient root of the animal and vegetable kingdom', which Haeckel admitted was 'common to both' (p.41). In order to retain his divisions, Haeckel downplayed the living credentials of this ancient root, 'considering [*monera*] to be more closely related to inorganic crystals than to nucleated cells' (Sapp, 2009: p.37). What is more, he argued that the very nature of *monera* meant that they have disappeared for ever from the Earth, explaining: 'We lack, and shall ever lack, the indispensable paleontological foundations' on account that 'the original parents of all subsequent organisms', were formless blobs of matter 'not in any way capable of being preserved in a petrified condition' (1876: p.39). With this permanent erasure, Haeckel simultaneously explains away the lack of fossil record evidence for his theory and relegates the only beings that posed a threat

[4] Again, adapted from the Greek *mónos*, meaning 'single' or 'solitary', reflecting their single-celled composition.

to his organised 'pedigree[s]' of life – all while maintaining the neatly divided system of organic life and sustaining the incumbent hierarchies and anthropic exceptionalism therein.

Haeckel's rationalising and compartmentalising of these evolutionary lineages can be interestingly connected to theorisations of the ecoGothic. Keetley and Wynn Sivils (2018), unpick how the ecoGothic is able to establish a 'dictum that the present remains in thrall to the past' by presenting us with an alien and discomforting view 'into our pre-human (and nonhuman) origins' (p.5). They argue that such considerations lead us to the discomforting realisation that our 'inexorably inherited' past 'marks us in particular *as animals*, and it is a past that persists vestigially within us' (p.5). However, as demonstrated, the imagined evolutionary timeline could extend back far beyond Darwin's apes, so that people could just as easily consider their origins *as vegetables*, an even more dehumanising and existential threat than the kinship of primates. Applying this ecoGothic reading to Haeckel's writings, we see an awareness of potentially unseemly evolutionary entanglements as he dexterously manoeuvres our common origins, the *monera*, into the darkest recesses of prehistoric time. To put it in psychoanalytical terms—so often utile in discussions of the Gothic—the super-ego of classificatory discourse pushes the traumatic idea of a shared progenitor of plants, animals [and people] into the pre-historic id, allowing readers to retain a sense of distance and superiority to the rest of the natural world. This reassuring narrative may have been part of the reason for the popularity of Haeckel's theories,[5] but despite his public acclaim he failed to gain institutional acceptance by the scientific community.

The inability to settle on the criteria for an intermediary kingdom did not address the problems of taxonomy and the spectre of hybrid forms continued to stalk popular and scientific discussions of animals and plants. The complication gave rise to the classificatory group '*problematica*' in the period, used to describe organisms that did not fit into existing orders of animals and plants. Thomas H. Huxley in his essay 'On the Border Territory Between the Animal and Vegetable Kingdoms' (1876) dubbed the eponymous borderline a microscopic 'no-man's-land' (1902: p.177) where none could authoritatively tread, affirming that 'the advance of biology [...] tended to break down old distinctions, without establishing new ones' (p.169). What many came to view as an insurmountable problem echoed Hogg's own struggle

[5] His 1876 work *The History of Creation* was republished in all the major European languages and became a sensation, eclipsed only by his follow-up work *The Riddle of the Universe* of 1899, which sold '100,000 copies in its first year' (Sapp, 2009, 29).

sixteen years earlier and Huxley remarks in his conclusion 'that the difference between animal and plant is one of degree rather than of kind, and that the problem whether, in a given case, an organism is an animal or a plant, may be essentially insoluble' (1902: p.195). The rhetorical 'degrees' used by Huxley echo the visual gradients of Hogg's diagram, suggesting that the problem of ambiguity in classification could not be confined to those mysterious, indeterminate beings that explicitly embody both animal and vegetable characteristics. Like a contagion, the exposure of one group compromises all, and therefore all plants and animals are implicated by association, creating a cloud of uncertainty that obscured their true origins and relations.

While the vegetable and animal kingdoms were haemorrhaging species at the base thanks to the ambiguity of their 'lower' organisms, they faced an equally damaging assault from the top. The research by Darwin into higher plants that 'ate' live animals, ultimately published as *Insectivorous Plants* in 1875 seemed to bestow upon plants the power of predation and even a primitive kind of will. The work also presented further evolutionary trouble by highlighting the 'remarkable accordance' in the power of digestion between the gastric juice of animals and the acids secreted by certain carnivorous plants – implying, if not a common ancestor for animals and vegetables, then at least an analogous evolutionary process, with each being 'adapted for the same purpose' (1875: p.134). Darwin described the discoveries as 'a new and wonderful fact in physiology' (p.135), but with their novelty also came new potential to disrupt and distort the perceived 'natural order' and consequently the figure of the carnivorous plant soon became a fixture of the Gothic imagination.

The ability for plants to consume and 'eat' proved so significant because of the threat it posed to established points of differentiation between plants and animals. For instance, Hogg's definition of animality hinged on the exclusivity of digestion in animals and the progressive divergence of flora and fauna as they attained 'higher' stages of biological complexity; both of these claims were to be disproved in the ensuing decades. As the American botanist Asa Gray (1889) questioned in his review of *Insectivorous Plants*: 'when plants are seen to move and to devour, what faculties are left that are distinctively animal?' (p.308). He expands:

> 'It is the naturalist, rather than Nature, that draws hard and fast lines everywhere, and marks out abrupt boundaries where she shades off with gradations. However opposite the parts which animals and vegetables play in

> the economy of the world as the two opposed kingdoms of organic Nature, it is becoming more and more obvious that they are not only two contiguous kingdoms, but are parts of one whole.' (p.289)

Though it is dangerous to infer the intent or individual reception of these works, the impression they create is one of vanishing sureties. The visual and written language of commentators like Hogg, Huxley, and Gray constantly refer to an idea of indistinctness, blurring or gradual shading, where one being, or class of being, imperceptibly can blur into another. By these accounts, the idea of plants and animals merging became increasingly easier to conceive.

By the turn of the century these ideas had reached their fever pitch. Francis Darwin, son and collaborator of Charles, became one of the most vociferous exponents for a new view of biology that placed plants and animals in ever closer relation. In 1880 he had co-authored a study with his father, *The Power of Movement in Plants*, where both Darwins (1881) concluded that 'it is hardly an exaggeration' to say the roots of plants function 'like the brain of one of the lower animals' (p.573) – allowing plants to encroach on sentience, the final frontier of exclusively animalian characteristics. These themes were later developed in a lecture titled 'The Movements of Plants', delivered to the British Association in 1901 and reprinted in the journal *Nature* that same year. The lecture builds on this analogy of a 'plant-brain', claiming that within the vegetable 'we may recognise the faint beginnings of consciousness [...] rudiment of desire or of memory, or other qualities generally described as mental' (Darwin, 1917: p.51). 'There is nothing unscientific', he continued, 'in classing animals and plants together from a psychological standpoint' (p.53), hinting at, as described by Chang (2017), the 'possible thoughts of plants' (p.86) and the psychic unity of animal and vegetable life. By entering, even speculatively, into the idea of a plant psychology, Francis Darwin's claims go further than any other author examined here in arguing the extent to which animals and plants are kin. His ideas signified a departure from more rigorously evidence-based studies towards a more conjectural approach to the inner-workings and origins of organic life, expounded by figures like Sir Arthur Conan Doyle. Tapping into this appetite for the esoteric, Francis' lectures caused something of a sensation and were extensively reported on in both international newspapers and esoteric periodicals like *The Theosophist*, the famous Madame Blavatsky's journal of the occult. In all such reports there was a recurrent fascination with the potential forms that sentient or otherwise remarkable plants could take, and as new discoveries pushed

at the limits of botanical knowledge, it became clear that such speculations could no longer be contained to strictly scientific modes of enquiry.

II. *Hybrid Fictions*

The seed of plant speculation was found to be ideally suited to the murky climate of Gothic fiction and captured the imagination of a number of writers. Much of the recent critical engagement with historical plant fictions have focused on how discoveries in plant science directly influenced in such narratives. Jane Desmarais, in her recent work *Monsters Under Glass* (2018), makes the case that Darwin's discoveries 'stimulated [...] writers to use monster plants to encode evolutionary anxiety' (p.167). Such an assertion is clearly evidenced by Algernon Blackwood's 1912 Gothic novella, *The Man Whom the Trees Loved*, which explicitly engages with contemporary scientific theories and discourses. The story, a masterful work of what Dawn Keetley (2016) has termed 'plant horror'(p.1),[6] sees the protagonist David Bittacy literally consumed by the love felt for him by a sentient forest, set into motion when Bittacy reads an article in *The Times* describing 'an address by Francis Darwin before the Royal Society', whom we are told is 'president, you know, and son of the great Darwin'(Blackwood, 1964: p.79). [7] Quoting Darwin's lecture, Bittacy recites: '"If we accept this point of view [...] we must believe that in plants there exists a faint copy of *what we know as consciousness in ourselves*"' – emphasising the latter part, we are told at this point by the narrator that Bittacy 'had italicised the last phrase' (p. 80). Blackwood's meta-textual dual-emphasis of formally italicising the text and then, in an aside, adding that it was Bittacy himself who placed the emphasis signifies the full import of Darwin's words on the progression of the narrative. Indeed, Darwin's conjecture clearly had an influence on Blackwood himself, as he takes pains to directly quote from *The Times* article, clearly marking it as a source of inspiration for this tale of sentient vegetality.

In terms of its role within the plot of the story, the article in *The Times* 'bridge[s]' the 'gulf' (Blackwood, 1964: p.133) separating the animal and vegetable, or rather *human* and

[6] Keetley defines plant horror as such: 'At its most basic, plant horror marks humans' dread of the "wildness" of vegetal nature' (2016, p.1) and within this article I take any instance of fiction that signals this vegetable 'dread' as an example of 'plant horror'.

[7] Darwin was in fact president of the British Science Association, not the Royal Society, however *The Times* article and the speech it was covering were both real, and Blackwood's quotations are exact: see *The Times* September 3rd 1908, p.7

vegetable, creating a point of access for the forest to advance, embracing and absorbing Bittacy in mind and body (p.143). It is with particular reference to the merging of consciousness that Elizabeth Chang (2017) notes the efficacy of 'fantasies of unification between plant and human' in producing sensations of horror, with the 'resulting hybrid [being placed] at the far outer limits of not only the narrative, but consciousness itself' (p.93). In this vein, Blackwood takes the superficially rather romantic concept of 'losing oneself in nature' and applies it literally, subverting it into a Gothic vision; creating a conscious environment that overpowers the solitary human psyche and subsumes it. The drama of the story centres on the ascendancy of the unorthodox ideas about human-vegetable relations, which manifest in the sentient and animate forest. Crucially, the malign presence of vegetable life is acknowledged as 'something that usually stands away from humankind, something alien' (p.133). It is only when the malign vegetable presence insinuates itself into Bittacy's home, heart, and mind through the novel ideas of cross-species communication, it is able to assert itself, growing in size and influence and usurping the natural order of plant passivity.

The Man Whom the Trees Loved serves as something of a warning against the power of new ideas and the way they are able to transform our environment, giving it a new and terrifying power over the characters of the story. Blackwood's story was not alone in this regard however, and speculative fiction of the late-century abounded with tales of pursuing a unification or perversion of natural forms. This plot was often given form through characterisation in the figure of the mad scientist, who serves as an embodiment of the pernicious effect of meddling scientific influences on the natural order. I want to examine how this figure of the 'mad scientist' is used to personify new ideas of the natural world that sought to conflate the animal, vegetable and human, introducing them into the fictional universes of Gothic stories. Since the hubris of Victor in Mary Shelley's *Frankenstein* (1818), the mad or over-ambitious scientist has been a mainstay of Gothic fiction, only gaining in traction as scientific cultures became more broadly disseminated in the periodical press. Anne Stiles' (2009) examination of the trope, 'Literature in *Mind*: H.G. Wells and the Evolution of the Mad Scientist', establishes the archetype as symptomatic of a 'cross-fertilization between literature and scientific ideas' (p.320). In Wells's case in particular, he was shown to be 'greatly inspired by his biology teacher [...] Thomas Huxley' and 'his emphasis on the brutality of natural selection', depicting the Mad Scientist as a product of a 'massively over-evolved brain' (p.319) with the cold logic of the evolutionary struggle for existence. It is worth appending here that although 'Huxley's pessimism' (p.319) over the cosmic process of natural selection was

certainly an influence on Wells and others, the debates on hybridity, of which Huxley was an active participant, played an equally integral role in the composition of the Mad Scientist figure, who literally eroded the distinctions between species that their real-world counterparts were effacing discursively. The most obvious instance of this is *The Island of Dr. Moreau* (1896), with the eponymous character being perhaps the archetypal mad scientist of the late Victorian era. Moreau's attempt to blend and merge animal and human consciousness, and subsequent exploration of the 'perplexities of entanglement' (Glendening, 2002: p.592) in Darwinian ecologies, have been the subject of critical inquiry for many years. However, Moreau was not alone in his mission to merge or unite organisms in abominable bodies, with other individuals reaching further afield—beyond the animal kingdom—for their experiments.

Four years before Wells' *Moreau*, a horticultural pre-cursor of sorts appeared in the form of a short story by Maud Howe Elliott, *Kasper Craig* (1892). The titular botanist is portrayed as a singular obsessive and the product of an intellectual climate seeking to deconstruct the boundaries of animal, human and plant. From the beginning of the narrative 'at a London flower show' (p.189), the story conflates and mingles different species through simile and metaphor. The 'gorgeously-dressed ladies' pass among the flowers 'like so many brilliant butterflies' (p.189) and are soon figuratively transformed through the talk of the protagonist, Leonard Ebury, and Kasper Craig into 'human flowers' (p.190). It is here that Craig reveals his belief in a vitalistic affinity and unity between natural beings that transcends the common boundaries of animal, vegetable and mineral – again taking his cue from the personal adornment of a member of the crowd:

> 'The lady and the bird belong, indeed, to the same class of beings. She wears the colors of his plumage, and imitates his graceful posturing – and see, further, how this woman has found her kin in the other kingdoms. She wears diamonds, hard, sparkling stones, whose glitter masks their shallowness; and she carries camellias: Showy, scentless, heartless as herself.' (Elliott, 1892: p.190)

Craig's cosmology reflects the scientific debate of the time, albeit rather crudely, in his apparent advocacy of what Gray (1898) termed the 'law of continuity' (p.190), 'solidarity of organic Nature' (p.323), or to use Craig's own terms: 'the great law of harmony, which runs through all nature' (Elliott, 1892: p.190), connecting subjects in the animal, vegetable and mineral kingdoms. Elliott's presentation of these ideas however, packaged as they are with

Craig's own hostile misogyny, immediately signal the dangers of his worldview to Ebury and the reader. Despite being a self-professed 'student of nature' (p.190), he holds much of it in contempt, showing disdain for flowers and gemstones esteemed by many, not to mention his preternatural hatred of women. It is this disdain he feels that allows him to violate social and scientific norms in the treatment of both his prized experiment and close female relative.

> 'Somewhat perturbed by the botanist's eccentricities, Ebury is nevertheless enticed by the promise of money and the affections of Craig's niece, Mary Heather, and agrees to assist him in a prospective orchid hunt to Sumatra. In anticipation, Ebury is shown the orchid collector's specimens, with the most prized being a 'savage-looking flower!' with petals formed in the shape of an 'open mouth and throat', appearing to 'almost have a human look' (p.197).

Seeing Ebury's fascination, the Professor explains the origin of the flower:

> 'It is allied to the *dionaea muscipula*, which, as you know[8], feeds upon insects. But this flower has a much more highly-developed organism. In evolution, it is as far from the Venus's fly-trap as you are from the river-drift man[9]. Linnaeus, and Gray, and all the famous botanists between them, have failed to establish the line between animal and vegetable life. There is a good and sufficient cause for this: the line does not exist. There is no break in the chain of creation. ... This hybrid is the result of the experiments of thirty years of my life. Step by step, I have raised the standard of its race's organism ... If we could produce an animal-flower, with more animal attributes even than the *dionaea*, should we not have found the link in the chain that binds the two kingdoms together? Would not the man who should produce that flower, be remembered with Galileo, with Newton, with Darwin?' (Elliott, 1892: p.197)

Craig's frenzied monologue reflects a desire for fame and knowledge often seen in the Gothicised Faustian scientist; what is significant is the referral again to real botanists, Gray and Linnaeus, and the touchstone of contemporary evolutionary parlance and the idea of filling in

[8] And indeed, Elliott's readers would have known, for it was one of the species cited by Darwin in *Insectivorous Plants*, describing it as 'one of the most wonderful [plants] in the world'.
[9] A then-common term for pre-historical or Neolithic man.

'missing links'[10] in the fossil record. The Professor's project of finally uniting the two kingdoms of plant and animal resonates with the gradational vision of the 'origins of species' as shown by Gray and Hogg above and is seen in the formal anthropomorphism of the flower's gaping 'mouth' connoting a floral-human subject with the means of consumption, communication and even [sexual] desire.

These various floral embodiments of social and taxonomic transgressions ultimately coalesce into a scene where the plant vampirically feeds off Mary Heather's blood. Visiting her days later, Ebury sees that the flower has become 'a robust and vigorous plant, standing boldly forth from the bark on which it bloomed', the 'faint rosy tinge' has 'deepened and spread over the whole flower', its mouth is 'scarlet' and its 'throat with its cruel spikes' is 'spotted here and there with flecks of dark red' (p.200). In contrast, Mary herself is pale, cold to the touch and near-death as the plant draws life from her – the Stokerian tableau corroborating with recent criticism that states that 'the terror of the monstrous hybrid [plant] fixates on its penetrative capabilities, and in this respect it shares attributes with other aggressive hybrid monsters, including the vampire' (Desmarais, 2018: p.167). With *Dracula* being published just five years earlier, the signalling of the figure of the vampire is of particular symbolic value as a byword for the refutation of natural order. Simultaneously alive and dead, human and animal, of the past and the present and sexually perverse – by evoking the vampire in connection with the orchid, Elliott is able to signal through a kind of teratological shorthand the level of abomination Craig has been able to produce.

However, the orchid is not solely reliant on the borrowed plumes of other anthropic monsters and Elliott also takes pains to demonstrate its innate monstrosity that is uniquely vegetal. One means of achieving this is the language of sexual indeterminacy that surrounds the plant, with it varyingly embodying both an overbearing phallus, 'standing boldly forth', and a *vagina dentata*, with its open throat and 'cruel spikes'. The hermaphroditic quality of the orchid reflects the long-standing knowledge that plants possess the equivalent of both male and female sexual organs, which, as Maja Bondestam (2016) notes in 'When the Plant Kingdom Became Queer', were often 'charged' with 'sexuality and sometimes objectionable lechery' (p. 123). The sexualised description of the plant's newfound virility in tandem with its menacing

[10] The term was coined in 1890s, after the discovery of *Homo Erectus* by Eugene Dubois and quickly appeared in works by Charles Lyell, T.H. Huxley, Darwin, and Haeckel.

vampirism is able to invoke a spectrum of fears and anxieties: as a potent and parasitic being drawing the vitality from innocent subjects, as an embodiment of contemporary fears of sexual transience and decadence, and as evidence of an unknown, malign environmental sentience. In T.S. Miller's *Lives of the Monster Plants* (2012) he proposes that 'the monster plant may point to a deep unease about the boundary between taxonomic kingdoms' (p.461) and this is certainly substantiated by the kind of monstrosity seen in *Kasper Craig*. In the context of the debate surrounding the evolutionary proximity of human and vegetable, the vegetable 'vampirification' signifies a parasitic hybridity where the plant subject draws closer and closer to the human in form and likeness while robbing its prey of their vitality, showing a new ghastly form of evolution where plants may be more 'alive' than people. Confronted by this horrifying prospect, Ebury seizes the orchid and tramples it 'into a bleeding mass' beneath his feet (p.200), destroying the only surviving subject of the Craig's lifework. Ebury's extirpation of the troublesome plant functions as an act of foreclosure, forcibly removing it from the narrative and actively curtailing all further mention of the orchid in an effort to re-establish social and biological norms, symbolised by his anticipated union with Mary. As they flee the house, Mary's brother begins to insist on the Gothic hybridity of the plant, stating '"You and I know the flower was a-"', before Ebury interrupts him with a warning of '"Hush, boy"' (p.202), urging him to forget, or at least repress, the ordeal. The refusal to admit mere mention of the plant as *creature* enforces a level of forced closure and denial amongst the characters, implying that with the foiling of Kasper Craig's designs, natural order is restored, reinforced and is once again unquestionable.

Numerous other narratives from the period similarly focus on obsessive scientists, plant monsters, and the destruction of anything that threatens the stability of ordered nature as we know it. 'Carnivorine' (1889) by Lucy H. Hooper appeared in the women's periodical *Peterson's Magazine* and details another everyman adventurer, Ellis Graham, here sent to Rome by a woman desperate to retrieve her son, Julius Lambert, who she believes has been seduced and entrapped there by a young woman by the name of Carnivorine. It transpires that the titular character is no woman, but a monstrous plant of Lambert's own creation. This initial misapprehension, whereby the mother mistakes her son's entanglement for a romantic tryst, is further emphasised throughout the story in order to consistently draw attention to the questionable status of the Carnivorine itself, as well as to the dubious nature of Lambert's obsession with it. This indeterminacy is the seat of 'the horror and the hysteria' found in 'Carnivorine' and plant horror as a whole, as Jane Desmarais (2018) notes, such affect

was 'generated by the dissolution of boundaries—female/male; human/plant—and uncanny resemblances between ostensibly different categories of organism' (p.167). Tellingly, on discovering the plant, Graham, in surprise, muses: 'this, then, was the object of my poor friend's affections – this ghastly shape, not yet wholly animal, yet scarcely vegetable, with the form of a plant and the appetites of a beast of prey' (p.338). Even by the story's close, Graham still looks on the creature as a disturbing hybrid: a 'vegetable-animal or animal-vegetable' (p.339), the struggle of deciding which kingdom's characteristics get precedence reflecting the extent to which the Gothic Carnivorine confounds conventional classification.

Much like Kasper Craig, Lambert 'tried to perfect a demonstration of the link between the vegetable and the animal kingdom', believing mythical creatures like hydras and dragons *were* real, but had 'degenerated into trees and plants' (p.337-338). His subsequent method to 'resuscitate the animal in the plant' (p.338) involved putting the plant on a high-meat diet, drawing from a common contemporary belief that protein, especially meat, could impart a kind of savage virility to the beings that consumed it, reintroducing the carnivorous vitality that had been lost in the evolutionary process. His methodology, though undoubtedly un-scientific, has a basis in the scientific literature of the period and Hooper explicitly mentions that Lambert has 'studied the discoveries of Warming[11] and Darwin' (p.338), demonstrating an awareness of contemporary figures in plant science. Beyond these direct references, there is also an awareness of a deep genetic past, akin to Haeckel's tree of life, which animates the evolutionary backwaters and streams that bisect the two kingdoms in Lambert's experiments. By redirecting life through these forgotten channels, it is imagined that Lambert can re-establish a connection between the two kingdoms and even migrate a being from one to the other. The result is a picture of evolutionary lineage, not as neat lines of descent, but chaotic and sprawling networks that bisect classifications; a disturbing view with the potential to yield deeply unsettling hybridised forms of life.

Shortly after tracking down the errant Julius, Graham is soon faced with the titular specimen, seated in a giant tub at the centre of a glasshouse:

[11] Eugenius Warming (1841-1924) was a Danish botanist and Ecologist. His 1895 textbook *Plantesamfund* (*Oecology of Plants*) was cited by many in the 1890s including Arthur Tansley and helped establish the discipline of ecology with an English translation of Warming's work appearing 1909.

> '…a strange plant – a hideous shapeless monster: a sort of vegetable hydra – or, rather, octopus – gigantic in size and repulsive in aspect and in coloring. So immense were its proportions, that it filled by itself the whole space of the conservatory. It consisted of a central bladder-shaped trunk or core, from which sprang countless branches—or, rather, arms—[...] Each arm terminated in an oval protuberance which had a resemblance to the human eye.' (Hooper, 1889: p.338)

Unlike in *Kasper Craig* or other similar narratives, Lambert's monster does not immediately resemble an orchid or flytrap and its 'spongy', 'shapeless' body actively resists identification. The first description the reader receives is of its sheer alien otherness, 'gigantic' and 'hideous' before trying to assign organic characteristics to its various features; even then, Graham has to variously borrow from both animal and vegetable traits, oscillating between the two as he fumbles to recognise 'branches', 'arms', a 'trunk', and a 'bladder'.[12] It is not until Lambert tells us that it 'is a Drosera',[13] which he has carefully 'developed into this unheard-of size' (p.338), that the plant's genetic origins are ascertained.

Lambert only intends to further pervert the form of his creation by next endowing it with the power of locomotion, providing the creature with, 'a pair of paddle-like feet or paws like those of some misshapen antediluvian animal' (p.339). This final bipedal detail, added to the already abominable form of the Carnivorine, causes it to more closely resemble a medieval grotesque than any modern scientific subject. The anachronism of its hideous shape is further emphasised by the reference to its 'antediluvian' appearance – referencing the time period before the great biblical flood when all manner of strange and abortive creatures were thought to have roamed the earth, before they were drowned by God, who saved only the 'good'. This epithet marks the Carnivorine for imminent destruction[14] and once Graham sees it tearing apart Lambert's corpse, he promptly fires a pistol into its central core, killing it instantly. In death,

[12] Indeed the bladder, a superficially animal organ, was at the time also synonymous with carnivorous plants. The *Utricularia* or 'bladderwort' was an aquatic plant famously described by Darwin and Asa Gray in the 1880s. Gray in particular remarked on its abject nature, describing in detail its 'bladdery sacs' (p.323) and that the plant 'prey[ed] on garbage' [i.e. dead flies] unlike its non-carnivorous 'relatives [who] "live cleanly" as nobler plants should do' (p.324-325), marking the bladderwort as something of a deviant.
[13] Commonly known as a sundew.
[14] The language shows the plant to be an aberration not only from a biblical standpoint, but also a scientific one. To quote from the above-cited Eugenius Warming and his *Plantesamfund*, 'Every species must be in harmony, as regards both its external and internal construction ... when these undergo a change to which it cannot adapt itself, it will be expelled by other species or exterminated' (Warming, 1909, p.2).

the reader is treated to a last, visceral union of Lambert and the Carnivorine as the plant spews forth 'a stream of reddish sap that looked like blood' that 'mingle[s] [...] with a ruddier crimson – the life-blood of my unhappy friend' (p.339). Returning again to Alaimo, the merging of the fluids achieves a final and very literal 'trans-corporeality'; joining the human and monster plant in a bodily union foreshadowed by the initial mistaken sexual misdemeanour between Lambert and the Carnivorine. The mixing of blood provokes a sense of physical horror at the idea of contamination, allowing the life-forces of the two beings to 'mingle' and permeate, while Hooper's focus on the chromatic similarity of the hues of 'reddish' sap and 'crimson' blood posits the extent to which Lambert had succeeded in bringing a plant into the realm of animality.

The narrative concludes with Ellis righteously burning the remains of the hybrid, lest it should be resurrected 'by curious scientists of the future' (p.339), concluding that though 'the annihilation of my friend's discovery may be a loss to science ... humanity will only have cause to rejoice in the destruction of the Carnivorine' (p.339). The text again presents the idea that the interests of humankind are at odds with the fatal and meddling curiosity of scientists who seek to conflate and combine incompatible beings. In this light we are able to see the other more mitigating and self-containing effect of the 'mad scientist' trope at work, clearly marking the hybrid creatures they produce as artificial and bred under the most perverse conditions to undermine the otherwise normative rules of nature. The mad scientist is thus rendered as something of a conservative plot device, a straw man for the perceived deviance or perversity of modern scientific thought. In other words if, according to Lambert, 'for science, there is no such thing as a monster' (Hooper, 1889: p.338), for nature and society, there still most certainly is. If monstrous plants are a human-made phenomenon, as opposed to a freak occurrence of nature, it is possible to maintain, or even reaffirm, human control of the hierarchies and boundaries of nature by policing and attenuating the malign, or merely eccentric, caprices of a few individuals. Characters like Julius Lambert and Kasper Craig provide a means of mollifying the ecoGothic anxieties of hybridity and hostility in nature thrown up by phenomena like carnivorous plants, deflecting the issue by having vegetal monstrosity develop from a flaw in character, rather than a flaw in nature – making it far more easy to correct, or even laugh at.

It is easy for narratives to veer from an exploration of complex and insurgent plant-life into a good-natured romp, or even farce, as in H.R. Garis' 'Professor Jonkin's Cannibal Plant' (1905), summarised in *The Argosy* where it was published as 'a triumph in cultivation

which threatened a tragedy in mastication' (p.164). Once again, we have an over-ambitious and mal-adjusted man of science, here in the form of Professor Jeptha Jonkin. Jonkin is described as an almost over-productive botanist and plant breeder, 'continually striving to grow something new in the plant world' (p.164) – here, of course, this 'something new' taking the form of a flesh-eating plant. He develops his giant pitcher plant by 'dieting the blossoms' on incrementally larger fare – progressing from flies to minced beef, then diced pork, 'choice mutton chops' and finally several 'porterhouse steaks' (p.166) a day. His methodology, fantastic as it may seem, was actually common practice in the period, with even Darwin (1888) himself feeding his insectivorous plants on cubes of 'roasted beef' (p.245). In Garis' tale the swelling portions of pig, sheep, and cow increase the plant's strength and vitality, changing its physical composition. By deriving its biomass exclusively from animal, specifically mammalian, proteins, the plant becomes a hybrid of sorts: in line with the aphorism 'you are what you eat', the vegetable monstrosity is disturbingly composed entirely of animal flesh.

As one might expect, this expansion of appetite persists until it is the Professor himself that is on the menu. A scene of comic violence ensues, wherein Bradley Adams, a friend of the Professor, walks into the greenhouse to see him leaning over the plant trying to feed it before observing: 'He went head first into ... the eating apparatus of the strange plant, his legs sticking out ... Then he disappeared entirely. Adams didn't know whether to laugh or be alarmed' (Garis, 1905: p.167). The farce continues as Adams is commanded to use chloroform to sedate the plant to spare it any violence or harm from the axe, proclaiming 'I would rather have let it eat me' (p.168), as he protects his prize specimen. In his explicit privileging of his force-grown plant-pet above his own life, Professor Jonkin is the most extreme of the several mad plant scientists here shown, and thus the narrative veers towards parody. Any suspense or fear of mortal danger is perpetually frustrated by the caprices of the Professor, which inject a mediating layer of humour to alleviate the tension, even as he is suspended within the very jowls of the plant monster. When Adams prepares to leave, he sees Jonkin 'dreamily' examining the flower before admonishing it as 'naughty', declaring that it will not get 'any supper or breakfast' (p.168). This infantilisation of the monstrous plant confirms the limited impact that this kind of plant horror can elicit. The absurdity of both the plant itself and its creator inhibit a meaningful interrogation of the boundary between plant and human – with any potential danger firmly confined to the vicinity of the fictional hothouse.

Examining similar narrative trajectories, both in the nineteenth century and elsewhere, T.S. Miller (2012) identifies the inhibitive element as an inherent characteristic of Gothic plant stories. He argues that 'vegetable monsters in fiction represent a disruption that also works to contain itself', suggesting that 'the narratives reinforce hierarchy by positioning the monster as evil, aberrant, an error to be corrected' (p.462). However, to read *all* monstrous plants as inherently self-defeating is potentially misleading as it ignores the narrative contexts from which these plants arise. Certainly, in the instance of *Kasper Craig* and other similar stories, the plants are confined by their status as artificial beings – in some respects literally confined as plants raised in the manufactured environment of glasshouses. Katherine Bishop in her analysis of the role of monstrous vegetation in detective fiction has noted how in keeping monstrous plants of exotic origin in 'liminal spaces such as scientists' laboratories', narratives can fulfil an imperialist mandate of enforcing an exclusionary policing of nature, where such plants are not allowed 'here ... not where the wilderness has been cultivated and thus defanged' (p.11). Their status as hybridised products of non-native horticulture means they are in effect 'against nature' and as such are marked for destruction or containment, with the human destroyer fulfilling the corrective role of natural selection by removing them from existence. However, in the case of stories like Blackwood's, where plants develop their monstrous or otherly qualities in the wild, such innovations cannot be regarded as 'unnatural', but rather the result of evolutionary progress. A far more disquieting and effective form of ecological horror is thereby unearthed through the interpolation of the revelations of Gray, Darwin and others into the vegetable kingdom – as Elizabeth Chang (2017) notes, 'the fear is not that the petted plant specimens in the kitchen garden will evolve *into* sentience, but that they possess sentience already' (p.91).

Conclusion

When trying to come to terms with the full impact of Darwin's findings in *Insectivorous Plants*, Gray (1898) asked his readers 'what is now to be thought of the ordinary [plants]' in light of these discoveries? 'No one ever imagined' [sic] that so many plants could possess the power of digestion (p.326), and yet here they were. His language expresses an urgency to redress a misrepresentation in plant physiology, but more than this, he also implies an awareness of a poverty of imagination in the contemporary conceptualisation of biology. For too long taxonomists had been clinging to the structured sureties of Linnaean, Enlightenment natural history and were therefore made blind to the sometimes nuanced and intermediary forms that

exist in an evolutionary paradigm. To fully articulate and appreciate said forms, it is necessary to embark on something of an imaginative leap in order to encompass the spectrum of species that can exist in the natural world. Though failing to gain much traction with scientific authorities, this experimental means of viewing nature resonated with other speculative cultural phenomena, like the Gothic fiction and psychical movements of the *fin-de-siècle*, latching on to the idea of latent connections between drastically different species and enabling a kind of communion between lifeforms, previously thought impossible. In this respect, the projects of experimental plant science and speculative, Gothic fiction are one-in-the-same: to imaginatively acquaint readers with 'the interconnections, interchanges, and transits' (Alaimo, 2010: p.2) that link all forms of organic life together. Both involve a suspension of disbelief and a departure from the sureties of conventional natural history; the only difference being in the case of Gothic fiction, those connections were seldom benign.

This essay has argued that, in the context of the ecoGothic, these instances of cross-kingdom hybridity in Victorian science and fiction reflect a period of biological uncertainty, when the new frontiers of Darwinian heredity threatened long-held ideas of anthropocentric exceptionalism with our 'nonhuman ancestry', a fact 'the Gothic is wont to remind us' (Del Principe, 2014: p.2). The readiness with which texts and ideas of the late Victorian era are able to engage with, or even anticipate, the recent discourse of the ecoGothic is testament to their potential relevance to the ecological anxieties of the contemporary moment. In the current century we are still discovering rogue, hybrid species of 'Problematica' (O'Brien & Carron, 2012) and genetically modified organisms implanted with DNA from a host different animals and plants populate laboratories the world over. By continuing scholarly engagement with these imagined biologies of the nineteenth century and beyond, writers and theorists may be able to anticipate, describe and understand the strange new problems and subjectivities created by an ever-more hybridised natural world.

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