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Chaos as Ecological and Autochthonous Expression: An Ecocritical Study of *La vorágine*

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Abstract

This article utilizes principles of ecological criticism to provide new readings of both the role and presentation of nature in José Eustasio Rivera's novel *La vorágine*. Whereas critics have heretofore focused on Rivera's memorable subjective descriptions of the Amazon jungle, the present study foregrounds the rich diversity of the real organisms represented in these depictions. In addition, this essay explores the connections between the text's core trope, chaos, and the current ecological and social scientific understanding of the ecology and the human history of the Amazon Basin.

José Eustasio Rivera's only novel, *La vorágine* [*The Vortex*] (1924), has much to offer the ecological critic, due to its interesting, varied, and contradictory perspectives on nature, ranging from the mimetic to the symbolic. Despite the fertile ground that Rivera's text offers the ecocritic, to date only Jennifer L. French has produced an ecocritical analysis of the text. The perspectives provided by ecological approaches to literary studies can refresh the scholarship of well-known texts by both providing new insights and rejuvenating established interpretations. As a case in point, scholars have traditionally focused on Rivera's striking subjective portrayals of nature in *La vorágine*. Lydia de León Hazera, for example, in her foundational study of the text, argues that the reason for the novel's warm reception among an international readership is its combination of social denunciation and "una descripción subjetiva de la región selvática sudamericana" (121). This fixation on the subjective aspects of nature in the novel has obscured the text's remarkable display of the ecological realities of Amazonia. One of the main purposes of this study is to foreground the neglected objective aspects of the Neotropical forest described in *La vorágine*. In addition, I will reframe the discussion of several of the novel's themes that have interested readers since its publication, such as human and environmental degradation, and gendering the landscape, by employing several of the major standpoints within the field of environmental literary criticism. Finally, this essay will explore the ecological and social scientific ramifications of the novel's central trope, dynamic chaos, symbolized by the vortex. The text's subjective 'ecology of chaos' resonates with current attitudes and theories of ecology and also of the social sciences, with regard to nature in general and the Amazon in particular. *La vorágine* provides a clear early-twentieth century snapshot of the alteration of the forest for economic gain, with its accompanying social cost. However, rather than constituting an historical, social and ecological anomaly, at the time of the novel's publication, rubber tapping in Amazonia was simply the latest picture in the broad historical panorama of a biogeographical region defined by kaleidoscopic change.

Exploring the role of nature in a literary text, or analyzing images of ecological or biological processes in any text—be it literary or non-literary—is termed *ecological*

criticism. Although it was initially seen as lacking theoretical rigor, and has experienced growing pains, ecocriticism is currently a burgeoning field within Anglo American literary studies, while it is a comparative seedling in the field of Hispanic literary studies. The publication of Cheryl Glotfelty and Harold Fromm's 1996 anthology titled *The Ecocriticism Reader* represents a high-water mark in the history of ecological criticism. According to Glotfelty, "simply put, ecocriticism is the study of the relationship between literature and the physical environment" (xviii). She further states that "ecocriticism takes an earth-centered approach to literary studies" (xviii). Although Glotfelty's definition remains viable today, many ecological critics subsequently expanded her initial statement, typically making it more inclusive, but in some cases narrowing its focus. As alluded to previously, ecocriticism is much less visible in Hispanic literature, despite a corpus of literary works that provides fertile ground for the ecological critic. However, ecological criticism of Hispanic literature has steadily increased in the last decade, and appears poised to enjoy wider acceptance. Two recently-published collections centering on ecocriticism in Hispanic literature evidence this growing validation. *The Natural World in Latin American Literatures: Ecocritical Essays on Twentieth Century Writings* (2010) traces the role of nature within Latin American literature, contextualizes ecocriticism within Spanish American fiction, and provides a compilation of ecocritical analyses of several canonical texts, including a study by Raymond L. Williams of nature in *Cien años de soledad*. *Ecocríticas. Literatura y medio ambiente*, also published in 2010, is a collection of theoretical essays, centering on ecofeminism. Ecocritics who work with Latin American literature typically apply the theoretical apparatus and terminology of ecocritical studies in English to literature in Spanish and Portuguese that has an ecological bent. However, ecocriticism will come of age in Latin American literature as we develop more autochthonous theoretical approaches, tailored to fit the socio-cultural and ecological realities of Latin America and Spain.

Three statements in *La vorágine* reflect current mainstream environmental attitudes, making them of interest to the ecological critic. While they may not appear revelatory in isolation, when we consider that the text was published in the 1920s, these comments are noteworthy because of how accurately they reflect a contemporary rhetoric of environmentalism. 'Environmentalists' can be defined as "the very broad range of people who are concerned about environmental issues such as global warming and pollution, but who wish to maintain or improve their standard of living as conventionally defined, and who would not welcome radical social change" (Garrard 23). The text's first geocentric message is expressed by Clemente Silva, a rubber-tapper in the novel whose symbolic last name conveys his closeness to 'la selva.' When Arturo Cova, the protagonist, and his party encounter Silva, whose legs are full of leech-induced sores, his simultaneous personification of the jungle and characterization of its exploiters as "executioners" neatly summarizes the novel's thesis and foreshadows the text's famous concluding line: "la selva se defiende de sus verdugos, y al fin el hombre resulta vencido" (244). Fittingly, Silva's pronouncement comes from the perspective of the forest. Later in the novel, upon the death of El Cayeno, the narrator condemns the despotic forces of greed and capitalism, that "foreign invaders" like El Cayeno symbolize, with this proto-environmental critique of

the destruction of both native vegetation and native cultures: “¡Así murió aquel extranjero, aquel invasor, que en los lindes patrios taló las selvas, mató los indios, esclavizó a mis compatriotas!” (379) Due to an overt ‘save-the-rainforest’ message, the third statement appears anachronistic. The statement is the concluding thought of a contradictory passage that both praises and denounces ‘civilized man’, whom the narrator dubs ‘the hero of destruction’ (297) as he leaves his mark on the jungle: “Y es de verse en algunos lugares cómo sus huellas son semejantes a los aludes: los caucheros que hay en Colombia destruyen anualmente millones de árboles. En los territorios de Venezuela el balatá desapareció. De esta suerte ejercen el fraude contra las generaciones del porvenir” (298). Revealing a conservation mentality that wouldn’t appear until decades later, this clairvoyant statement combines a three-pronged critique of erosion due to deforestation, the extinction of a species of rubber tree, and mismanagement of resources, with its accompanying negative impact on future generations. The conservationist message articulated through the combination of these three scattered environmentalist moments in the novel would find full expression decades later in the personage of Chico Mendes, the Brazilian rubber-tapper turned environmental activist.

In addition to these relatively few but obvious mainstream environmentalist passages in the novel, the text also evidences clearly discernible patterns of more radical environmentalism. Jennifer French has argued that the text resonates “with the most radical environmentalism of the early twenty-first century” (153). From an ecocritical perspective, Rivera’s novel can be described as a fictional treatise on the deleterious effects of capitalist-driven societal pressures on both northern Amazonia and its human inhabitants, focusing specifically on the rubber-tapping industry. Rivera himself vigorously pushed this interpretation of the novel after its publication, and his non-literary writings clearly explain the ecological hazards presented by the rubber industry (French 148). Several strands of current ecocritical thought can be lifted from this reading of the novel, including deep ecology, ecofeminism, and social ecology. These three positions are viewed as ‘radical,’ on the broad continuum of environmental sensitivity, running from no awareness or concern to acute awareness and extreme concern, with environmentalism roughly occupying the middle ground. Underlying each of these stances is the implicit understanding, and in most cases the critique of, “the anthropocentric dualism humanity/nature as the ultimate source of anti-ecological beliefs and practices” (Garrard 23). Of the three previously mentioned radical positions, social ecology and ecofeminism are the most readily applicable to the novel.[1]

Adherents to the philosophies of social ecology, which is explicitly political, construct a sustained discourse of opposition to the power relations and hierarchies that afflict all kinds of societies, arguing that environmental problems ultimately stem from systems of domination or exploitation of humans by other humans (Garrard 27; Rowlands 162). By exposing the neo-colonial excesses of the rubber industry, decrying the atrocities committed by those in power and detailing the miseries of those who are enslaved by them, Rivera’s text clearly lends itself to social ecological views. Soon after they meet, Clemente Silva explains to Cova how caucho drives what could be described as a Darwinian economy, based on the survival of the fittest. He points out

that cruelty is the determining factor in establishing the hierarchy of foreman and worker: “a fuerza de ser crueles ascienden a capataces, y esperan cada noche, con libreta en mano, a que entreguen los trabajadores la goma extraída para sentar su precio en la cuenta” (245). The duo of Barrera and la madona Zoraida Ayram represent the hierarchical level above the foreman, but the text conceals the national and international trade beneficiaries of the rubber industry, focusing instead on the local production system, where abuses occur most frequently. The novel also alludes to governmental ineptitude in determining national borders, and outlines fruitless attempts to seek official redress for the abuses suffered by rubber tappers, further emphasizing the helplessness of the exploited classes. All of this accentuates centripetal, rather than centrifugal forces in the text, forces which inexorably pull toward the center of the jungle vortex. Both environmental and human degradation lie at this core, making the premises of social ecology relevant to the novel.

Of the major ecocritical positions, the most clearly applicable to *La vorágine*, and at the same time perhaps the most problematic, is ecofeminism. Many cultures have drawn parallels between women and the natural world, interpreting the earth as an inherently feminine entity. Sharon Magnarelli points out that it is Cova “quien configura nuestra visión de mujer y naturaleza dentro del texto” (337). Ecofeminists oppose what Karen Warren terms the ‘logic of domination’ inherent in these associations, derived from the dualism humanity/nature and from the androcentric dualism man/woman (6). Just as anti-ecological practices stem from the anthropocentric dualism, misogynist attitudes stem from the androcentric dualism; ecofeminists point out the shared history of exploitation of both. In *La vorágine*, the narrative voice feminizes the jungle, most notably in the opening lines of the second part of the novel, which has been called the ‘Ode to the jungle’: “¡Oh selva, esposa del silencio, madre de la soledad y de la neblina! ¿Qué hado maligno me dejó prisionero en tu cárcel verde?” (189) The narrator continues compiling feminine imagery, mentioning “tus senos húmedos”, “la fuerza cósmica”, and “un misterio de la creación” (189-190). The exploitation of the jungle, then, becomes the exploitation of a feminine body. This Mother Nature, however, is consistently portrayed as an evil Step Mother, the ‘green prison’ from which there is ultimately no escape. The narrative voice of the opening segment of the third part of the novel, often referred to as the song or lament of the rubber tapper, wonders why the jungle doesn’t ‘roar and smash us all like reptiles, to punish the vile exploitation’ (289). To further complicate the process of gendering nature in the novel, several critics have pointed out the masculine images associated with the rubber trees, which are described at one point in the novel as ‘castrated’ (266).[2] Although ecofeminism provides a critical apparatus that affords insights into the presentation of nature in the text, once again the text reveals what Carlos Alonso calls its “troublesome recalcitrance to exegesis” (*Criollista novel* 2:211), as it both constructs and deconstructs dualisms, resulting in an androgynous, exploited jungle that at the same time defends itself masterfully.

Both ecofeminism and social ecology emphasize issues of environmental justice, a concept which focuses on the many inequities and burdens—economic, legal, and environmental—facing disadvantaged communities. Garrard points out that

“ecofeminists have also provided sharp critiques of globalization, free trade and ‘international development’ that link their project as much to the politically orientated positions associated with social ecology and eco-Marxism as to ethically and spiritually orientated deep ecology” (27) French provides a thorough analysis of these inter-related topics in the novel, focusing on the text’s curious omission of national and international forces which are at work, but entirely behind the scenes. She highlights the curious “disappearance” of the “scandalous Peruvian Amazon Company, which *La vorágine* at once exposes and conceals” (112). French’s explanation of how the company operated emphasizes the novel’s tie to environmental justice themes:

The Peruvian Amazon company, which began in the last years of the nineteenth century as a small rubber-trading outfit run by Julio C. Arana, took brutal advantage of the lawlessness of the region know as the Putumayo—a stretch of disputed land on the Peru-Colombia border—to terrorize both would-be competitors and local indigenous tribes, gradually establishing a monopoly on labor and natural resources there. (112-113)[3]

Local authority figures in the novel, such as Zoraida and Barrera, represent these westernized, capitalist forces that exploited disadvantaged minorities and the land itself. In particular, the ravenous image of ‘la loba insaciable,’ an epithet that Cova applies to Zoraida, represents a powerful critique of the rampant greed associated with neo-colonial, capitalist excesses. Rivera alludes to both governmental ineptitude and the lack of governmental policies and regulations that allowed the types of abuse enacted by representatives of the ‘invisible’ Peruvian Amazon Company. The episode where a French naturalist hires Clemente Silva to work with him provides a clear example of these issues. When the naturalist learns of the plight of the rubber-tappers, he documents the atrocities with his camera, sends notes and photographs to London, Paris, and Lima, (which are not answered or acted upon) and attempts to purchase the freedom of both Silva and his son Luciano from their employers. In one memorable scene, as the naturalist photographs an old, scarred *siringo* tree, he discovers that Silva has analogous scars on his back, and photographs the two together, metonymically creating a picture of a plea for both environmental and social justice (267). French concludes that “Rivera blurs the boundary between the human and the natural in order that we may better understand our mutual vulnerability and the economic violence to which we may both be subject” (153).

Ecological criticism, in addition to having one foot embedded in cultural artifacts, such as literature, has the other foot squarely on the ground, showing a keen interest in the objective realities of nature (Glotfelty xix). As Garrard puts it, “the challenge for ecocritics is to keep one eye on the ways in which ‘nature’ is always in some ways culturally constructed, and the other on the fact that nature really exists, both the object and, albeit distantly, the origin of our discourse” (10). *La vorágine* may be the first ‘novela de la selva’ that includes a substantial presentation of nature in an ecologically correct fashion, rivaling and perhaps surpassing Luis Sepúlveda’s novela de la

selva, *Un viejo que leía novelas de amor*, published sixty-three years later, in 1987. The familiarity with Neotropical flora and fauna that Rivera gained through first-hand experience in Amazonia, like Sepúlveda and Alejo Carpentier after him, results in a diverse and accurate display of animal and plant life in the novel. In her critical edition of the text, Montserrat Ordóñez makes extensive use of two scientific sources, *Amazonia colombiana* and *Colombia amazónica*, in her footnotes to detail many of the equatorial plants and animals that Rivera includes in the text, unintentionally highlighting what I will call the novel's biodiversity. As the setting changes from the Andes to the llanos to the humid tropical forest, Rivera catalogues an impressive array of tropical trees, vines, and other plants, insects, arthropods and other invertebrates, fish (who can forget Barrera's gruesome death by piranha?), reptiles, birds, and mammals. The biodiversity of the novel is a core reason behind Rivera's success at representing ecological realities of the Neotropics, complementing the unforgettable psychological landscapes that he creates. While I am not characterizing the representation of the signs of nature in the novel as objective or realistic, for this would be a gross misinterpretation of the text, I am calling attention to the imposing accumulation and diversity of the real objects signified by those signs.

The genius of Rivera's justifiably famous title, which has been translated as 'The Vortex', but also means 'the whirlpool', is that it applies equally well on both connotative and denotative levels. Those who read the text for the first time often struggle with the confusing swirl of characters, intense emotions, and events. However, whirlpools also denote water, rapid motion, and the threat of death, three fundamental aspects of many Neotropical ecosystems, but which are particularly applicable to Neotropical forests. '*La vorágine*', then, in addition to its important symbolic function in the text, also aptly describes the physical realities of the Amazonian forest portrayed in the novel, with respect to water, rapid motion, and physical danger. A rainforest, as the name suggests, is essentially a nonseasonal forest dominated by broad-leaved evergreen trees, where rainfall is both abundant and constant (Kricher, *Neotropical Companion* 16). This consistent rainfall produces the myriad rivers, riparian habitats, exuberant vegetation, and high levels of humidity that characterize this biome.[4] Aided by the omnipresent water, change happens quickly in tropical land environments, particularly when compared to other terrestrial ecosystems of our planet. Tropical plants are the fastest-growing in the world, and nutrient cycling in tropical forests, described by the tropical biologist Adrian Forsyth as the "rapid turnover of life and death" (19), occurs much more rapidly than in other forests.[5] The dizzying complexities and the rapid-fire nature of life processes in equatorial rainforests contribute to the sense of chaotic exuberance experienced by those who have described the Neotropics from the late fifteenth to the early twenty-first centuries, from Columbus to E.O. Wilson. John Kricher characterizes the intricacies of the relationships between Neotropical species and the ecosystems in which they are found as "the most complex Gordian knot in ecology" (*Neotropical Companion* 3).

In addition to water and rapid motion, the danger factor constitutes the third element of Neotropical rainforests that hearkens back to the text's title. Although generations of critics have sharply contrasted Rivera's *locus amoenus* depictions of the llanos of

southern Colombia with what Rafael Gutiérrez Girardot calls the “*locus terribilis*” characterization of the jungle (234), as part of a Dantesque descent from the sierra to the infernal lowland jungle, both the llanos and the jungle are presented as dangerous, challenging landscapes. Early in Cova and Alicia’s journey through the savannah, an anaconda attempts a quick attack on Cova from a small lagoon where they stop to obtain drinking water. The numerous references to quinine and mosquitoes in the first part of the novel also remind the reader of the omnipresent threat of malaria and other deadly mosquito-borne tropical diseases. Elba R. David has studied the possible influence of Alexander von Humboldt’s *El viaje a las regiones equinociales del nuevo continente* on the writers of the “*novelas de la tierra*”, focusing on Rivera’s familiarity with the text, and on the affinities between the two authors. In reference to his descriptions of the llanos, David observes that Humboldt “fija un cuadro de gran fuerza pictórica y altamente reveladora de la fiereza de los llanos sometidos a la crudeza de los elementos” (36). Although it is true that Rivera’s descriptions of the savannah are generally more favorable than those of the jungle, he nonetheless presents the llanos as a hard landscape, fraught with danger to both animals and human beings. Likewise, the lowland tropical forests and rivers of Amazonia present numerous physical threats and potentially deadly challenges to travelers and inhabitants alike. In his thorough and entertaining introduction to the New World Tropics, *A Neotropical Companion*, ecologist John Kricher, who has traveled and researched extensively in Neotropical forests, includes an initial “A Personal Note to the Reader”, which ends with an oxymoronic blend of sober warning and light-hearted humor: “Before you go into the field, I strongly advise that you read the appendix, “And Hey, Let’s Be Careful Out There.” It is a survey of the various potential safety and health hazards that await the visitor to the tropics. Reading it first, well in advance of your trip, should help ensure that you remain safe and healthy and are not eaten by an anaconda or carried off by army ants” (xvii). Both anacondas, as noted earlier, and *tambochas*, or army ants, threaten characters in *La vorágine*.

Through the focalizing perspective of Arturo Cova, Rivera includes two memorable scenes, one from the llanos and one from the selva, that combine water, rapid motion, and the threat of death. Both scenes share direct ties with Edmund Burke’s concept of the sublime in nature, which focuses on “shadow and darkness and dread and trembling.” Burke claims that “the passion caused by the great and sublime in nature...is Astonishment, and astonishment is that state of the soul, in which all its motions are suspended, with some degree of Horror” (Garrard 64). Cova’s description of the ‘heroic palm’ struck by lightning during the hurricane in the first part of the novel echoes Burke’s concept of the sublime: “y era bello y aterrador el espectáculo de aquella palmera heroica, que agitaba alrededor del hendido tronco las fibras del penacho flamante y moría en su sitio, sin humillarse ni enmudecer” (170). The second scene, in which two maipureño indians drown in a whirlpool as they attempt to pull canoes up the rapids of a river, includes language almost identical to the first. Fittingly, this scene, which includes the words ‘vórtices’, ‘torbellino’, and ‘remolino’, takes place at the exact mid-point of the novel. Cova watches, transfixed, as the men are sucked into the rapids and disappear: “Los sombreros de los dos náufragos quedaron girando en el remolino, bajo el iris que abría sus pétalos como la mariposa de la indiecita

Mapiripana. La visión frenética del naufragio me sacudió con una ráfaga de belleza. El espectáculo fue magnífico” (233). At the novel’s very center, in a spectacular example of *mise en abyme*—with the vortex within the vortex—water, rapid motion, and danger combine to exemplify sublime realities of Amazonia.

A further example of the objective realities of the novel occurs early in the second part of the novel, where Rivera offers a panoramic view of a *garcerero*, a wading-bird rookery, focusing on the stately, pure-white Great Egret, the *garza real*. The *garcerero* is depicted as an integral biotic community, complete with prey species and their predators. Although Rivera emphasizes the aesthetic beauty of the *garcerero*, which Cova and his companions visit on a feather-gathering expedition, he reminds us that the search for feathers in the idyllic rookery is a dangerous endeavor, “que a veces cuesta la vida de muchos hombres” (205), making this yet another scene that combines water, motion, and peril. The scene moves vertically, ascending first to the air-borne Great Egrets, down to the trees where they nest, descends to the water where predators abound, and descends further still underwater, to the bottom of a seasonally-flooded riparian forest. The narrator expertly/accurately populates the scene with Neotropical wet-land species of birds, reptiles, fish, and mammals, from ungainly Jabiru Storks and beautiful Scarlet Ibis, to less-charismatic anacondas and caimans, dangerous piranhas and electric eels, and enigmatic freshwater dolphins. Except for the *modernismo*-induced poetic flourishes, the description reads much like Humboldt’s account of similar Neotropical wetlands of the Orinoco River Basin. With a final nod to the *modernismo* poetic tradition, the narrator caps the scene by describing the eventual beneficiaries of the risky feather-collecting expedition, pointing the reader’s imagination across the Atlantic to ‘far-away cities’, and ‘the beauty of unknown women’ (205).[6] The scene of the *garcerero*, aesthetic trappings notwithstanding, constitutes a fine example of Rivera’s ability to present an entirely accurate portrayal of the ecology of a Neotropical ecosystem.

Ultimately, however, the mimetic aspects of nature in the text are overpowered by the symbolic. From the previously highlighted destructive hurricane at the end of the novel’s first part, to the memorable closing line, “¡Los devoró la selva!” (385), the natural world of the text often seems unpredictable, unpleasant, and violent, much like Carpentier’s most memorable descriptions of the jungle in *Los pasos perdidos*. Nevertheless, the enduring symbol of the dynamic forces of nature in the novel—the vortex—resonates with recent fundamental changes in the views of natural systems espoused by ecologists. For example, ecologists have recently shifted from the deep-seated prevailing notion of ecosystems as entities that tend toward order and harmony to a view of nature as much more dynamic, regularly altered by unpredictable forces, and, over time, ultimately characterized by chaos. The idea of nature as ordered and harmonious has persisted since classical times. John Kricher has recently published a deconstruction of this idea, titled *The Balance of Nature: Ecology’s Enduring Myth* (2009). “One theme will weave throughout the essays”, he explains, “connecting them as the message of the book: there really is no such thing as a ‘balance of nature’” (5). In the novel, the hurricane illustrates both the destructive and regenerative powers of chaos. In ecological terms, natural disturbances fuel the steady process of

succession in an endless cycle. Every climax community, such as the stand of moriche palms that is altered by the hurricane, will eventually suffer a natural disruption, which provides a new beginning, particularly in the tropics. Commenting on the sudden arrival of a violent rainstorm in the Amazon Basin, the eminent biologist E.O. Wilson underlines the crucial role of chaos in the evolution of Amazonian rainforests:

The greatest powers of the physical environment slam into the resilient forces of life, and nothing much happens. For a very long time, 150 million years, the species within the rain forest evolved to absorb precisely this form and magnitude of violence. They encoded the predictable occurrence of nature's storm in the letters of their genes. Animals and plants have come to use heavy rains and floods routinely to time episodes in their life cycle. They threaten rivals, mate, hunt prey, lay eggs in new water pools, and dig shelters in the rain-softened earth. On a larger scale, the storms drive change in the whole structure of the forest. The natural dynamism raises the diversity of life by means of local destruction and regeneration. (9).

Kricher expands Wilson's perspective to an interplanetary scale. His statement that "much of the universe is a violent place" (*Balance 2*) brings to mind the lasting impressions about nature in *La vorágine*, images of shocking violence that when viewed through the lens of ecology become normal and expected. Violence and unpredictability form two of the three main axes of the novel from the beginning, appearing in the well-known opening line: "Antes que me hubiera apasionado por mujer alguna, jugué mi corazón al azar y me lo ganó la Violencia" (79). Understandably, many critics, most notably William Bull, have interpreted the violence and chaos of the natural world in the novel as the product of Cova's mental instability: "la psicología, la filosofía de la vida y el comportamiento de Cova se vuelven el marco desde el cual debe observarse la naturaleza que aparece en *La vorágine*" (320). Anthropocentric views such as those expressed by Bull attribute the volatility of nature in the novel to Cova's unsteadiness, when in fact ecologists have come to regard volatility as a defining characteristic of all natural processes. As Wilson so eloquently reminds us, the dynamic forces symbolized by 'la vorágine' are encoded into the very genes of Amazonian rainforest species; their continued existence depends on the dynamic forces at the core of Neotropical ecosystems.

Ecology is not the only field that has recently seen some of its most cherished tenets challenged. Social scientists have begun to conclude that historical changes in the composition of New World tropical forests, in addition to being caused by natural forces, have also been human-induced. Many Amazonian anthropologists and archaeologists, for example, now visualize the pre-Columbian Amazon as an evolving mosaic of often significant human alterations of forested areas, rather than as a static, virginal wilderness. The idea of humans manipulating the jungle for their own purposes, which lies at the core of the social and economic aspects of the novel, is therefore not new,

nor is it the product of capitalism or other globalization forces. Rather, it is autochthonous. Carlos Alonso traces the development of the search for autochthonous expression in the Spanish American regional novel. Alonso posits that “the demand for an autochthonous cultural expression has been the dominant concern in Latin American intellectual history”, highlighting “the historical depth of the Latin American obsession with the actualization of an indigenous mode of cultural being” (*Spanish American* 14). He examines how *Don Segundo Sombra*, *Doña Bárbara*, and *La vorágine* attempt to give shape to autochthonous cultural expression in Latin America, each presenting us with a “wealth of detail about three distinctive human activities” – cattle ranching (*Doña Barbara*), cattle driving (*Don Segundo Sombra*), and the extraction of latex (*La vorágine*) (75). He treats *La vorágine* last, noting the acute difference between Rivera’s text and the prior two novels in terms of what he calls the ‘closeness’ between the humans and the environment in which they work: “But whereas in the other novels discussed this closeness arose from a condition of mutual and *harmonious* molding between man and his environment, the relationship is now depicted as one that results in the weakening and eventual annihilation of the two parts” (138, emphasis added). Alonso’s use of the word ‘harmonious,’ and the phrase “human activity that has arisen in perfect consonance with the environment” (64) earlier in his study, underline the commonplace idea that indigenous humans existed in a monistic relationship of harmony with their physical environment, a fallacy that has been exposed within the last two decades. Charles Mann synthesizes the results of many of these new social scientific views in his book *1491: New Revelations on the Americas Before Columbus*, which covers North, Central and South America, including the Amazon Basin. Mann compiles compelling evidence that the autochthonous human inhabitants of Latin America maintained a relationship of manipulation, rather than an idyllic relationship of consonance with their environment. In the case of the Amazon, scientists have discovered that aboriginal Amazonians actively manipulated certain sections of forest, propagating desirable fruit and nut trees and felling less desirable species. Several extensive forested areas of Amazonia today are the result of similar concerted effort on the part of pre-Columbian societies. The extractive activities described by Rivera in *La vorágine*, therefore, simply become the latest in a series of manipulation of tree species, all within the framework of an extensive history of anthropogenic manipulation of Amazonia. It is possible that the novel discloses a new factor, the colonial aspect of the region’s history, where westerners exploit the work of indigenous people and others of low socio-economic status. However, it is also entirely possible that some previous alterations of the forest involved one dominant culture’s exploitation of another, through slave labor, or perhaps through intracultural domination as well. In effect, Rivera criticizes what indigenous cultures have done for millennia; manipulate their physical environment for their own purposes. The genuinely autochthonous, then, is dynamic, rather than static, blasting the perception of, as Mann puts it, “the Indians of the tropics as living in timeless stasis” (333).

Together with enhancing traditional critical approaches to Rivera’s text involving the role of nature in the novel, this essay has sought to expose the substantial core of concrete, biotic elements that lie camouflaged within the distracting press of *La vorágine*’s anthropomorphic and anthropophagic imagery. The adept inclusion of these

elements, comprising the biodiversity of the text, is one of the answers to Horacio Quiroga's admiring rhetorical question about how Rivera is able to maintain the 'constant palpitation of life' of the natural world of the novel (80). The mimetic-symbolic balance is such that the individuality of the trees is not subsumed within Cova's metaphorical forest, although many of the novel's readers have not been able to see the trees for the forest. The ecological complexities of the text are another reason to vindicate *La vorágine*, "once considered simplistic and hopelessly archaic", but perhaps "the most complex and revolutionary text of Spanish American's regional literature" (French 153). At the time of the publication of Rivera's novel, ecology was a nascent field, laboring under the classical notion of an inherent balance of nature. Furthermore, social scientists and the public in general held a deep-seated belief in the so-called 'ecological Indian' inhabiting the unspoiled forests of the Amazon Basin. Currently, the dynamism of chaos, the core trope of Rivera's novel, in terms of both nature itself and the interactions between humans and the environment, dominates the perspectives of ecologists and social scientists. Although I am not suggesting that Rivera was prophetic, it appears that the overarching metaphor of his novel was certainly prescient.

Notes

[1] Deep ecology, an influential branch of philosophy within the wider environmental movement, does not constitute an important aspect of Rivera's text. Greg Garrard explains that "The shift from a human-centred to a nature-centred system of values is the core of the radicalism attributed to deep ecology, bringing it into opposition with almost the entirety of Western philosophy and religion" (21). Deep ecologists assert that nature, including such natural forms as rivers, prairies, and deserts, has intrinsic value. Although it is clear that nature is the supreme force in the text, it would be difficult to sustain the idea that the text marks a shift from a human-centered to a nature-centered system of values.

[2] Among other critics, Jennifer French refers to several aspects of the fusion of men and trees: "Perhaps most extraordinary is the physiological intermingling of the jungle's multiple combatants. The speaker refers to rival rubber trappers as "castradores," playing on the dual meanings of the verb *castrar*, to prune and to castrate. The language of the human body—blood, tears, semen—is used to describe the fluid extracted from the trees, and the men shed blood that "augments the sap of the plants" (153).

[3] French makes it clear that although he does not mention the company in his novel, Rivera had to be aware of the Peruvian Amazon Company (112-123).

[4] Interestingly, Colombia has the wettest rainforest on the planet. The annual rainfall in parts of the lowland rainforest of Colombia's Pacific coast can exceed 510 inches (13 meters), making it the wettest rainforest on Earth (Marent 31).

[5] Forsyth describes the role of fungi in the nutrient recycling process, emphasizing the speed with which it takes place: “The constant temperature and high humidity of the rain forest floor provides a perfect environment for fungi—one that allows particularly rapid growth. Fungi can invade new sources of fertility far more rapidly than a tree rootlet can, and this rapid capacity for growth and colonization lessens the loss of valuable nutrients from the forest ecosystem. Under the silent, relentless chemical jaws of the fungi, the debris of the forest quickly disappears. The leaves that constitute much of the litter vanish within a few weeks, and even the massive boles of fallen forest trees often erode away within a few years. This digestive process goes on much more rapidly in tropical rain forest than it does in temperate forests” (19).

[6] Montserrat Ordóñez has pointed out the clear parallels between the feathers and the caucho as raw materials for exportation to European markets (Rivera 203).

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