



Posthuman Liminalities: Reimagining Food and Embodiment in *The Windup Girl*

Dr. Sambhu R.

Assistant Professor,

Department of English,

N.S.S. College, Pandalam, Kerala.

3333sambhu@gmail.com

 <https://orcid.org/0009-0005-8328-2481>

<https://doi.org/10.66376/criterion.v17.n3.8>

Abstract:

The present article analyses the liminality of food in Paolo Bacigalupi's novel, *The Windup Girl*. It interprets the novel as inaugurating a subversion of the humanistic notions of food as something inert and external to the body. It also attempts to present the posthumanisation of food in the novel by interweaving biotechnological innovations that blur the boundary between the organic and the synthetic with the ontological position occupied by windups whose subjectivity is rhizomatically defined rather than fixed in a static schema of sex, sentience, and gender. The posthuman concerns of the novel examined here are two-fold: transcending human/machine dualisms as explored through the complex materiality of Emiko, the eponymous windup girl, who as a member of "the New People" is considered less than human, and conceptualising food, as exemplified by *ngaw*, as posthuman.

Keywords: corporeality, GMO, Anthropocene, liminality, posthuman.

Introduction

The Windup Girl, by Paolo Bacigalupi, is a science-fiction novel published in 2009. The book has won the Hugo Award, the Nebula Award, the Locus Award, the Compton Crook Award, and the Campbell Memorial Award. *The Windup Girl* presents a post-apocalyptic world that is still recovering from a global agricultural catastrophe caused by mutating strains that infect both crops and humans. As one of the few nation-states that are still staying afloat in the midst of the catastrophe, Thailand is characterized by large agri-based corporations like PurCal, HiGro, UTex, and AgriGen which have come up in place of the computing-based corporations of the 21st century to design and supply genetically modified plants in an aggressive marketing environment. With business being tied directly to ensuring the means of survival rather than investing in lofty projects that guarantee the aggrandisement of humanity, people are completely dependent on these corporations to produce even their staple food. However, survival is precarious since new varieties are prone to mass devastation by disease, and the seed-bank, which is one advantage Thailand has over other nation-states, has to be carefully guarded. As a landscape from which all kinds of digital technologies have been eviscerated, the new world has regressed into a pre-technological stage in which megodonts, “elephant-derived animals” (9) power factories through their manual labour.

Against this peculiar background, *The Windup Girl* unravels as a particularly complex plot centred on Anderson Lake, a spy for AgriGen. The novel follows him seeking out Gibbons, a rogue geneticist, and the Thai government’s seed bank, which is a valuable source of genetic data for his company. Continuing with his investigations, Anderson falls in love with Emiko, a member of a genetically modified slave class from Japan, who serves as a sex worker with such high-profile clients as the Somdet Chaopraya, or the king regent. The novel also introduces the upright Jaidee Rojjanasukchai, a crusader for the Thai Ministry of the Environment, and several other characters like Hock Seng who plot to steal the blueprints for

the kink springs from Anderson. What makes the novel interesting is the way it mixes science fiction themes with feminist values that are more properly encountered in literary fiction.

Posthuman Gastronomy and Embodiment in *The Windup Girl*

This paper attempts to read *The Windup Girl* through the optic of posthuman gastronomy. In so doing, it employs a two-fold framework that highlights the convergence of Emiko's ontological liminality or in-betweenness with the broader question of how the GMO food economy obliterates the distinction between the organic and synthetic. While the majority of science fiction scholarship plays off the proliferation of mechanical enhancements against the growing redundancy of embodied states in a manner that hints at a fully prosthetic future, the liminal approach *The Windup Girl* foregrounds attempts to reposition posthuman subjectivity within material acts of production and consumption. By situating the engineered body of the windup girl as well as corporate-manufactured agricultural commodities at the crossroads of human/nonhuman and natural/artificial, this study moves beyond dualistic paradigms. It thereby demonstrates how Bacigalupi dismantles traditional humanist divisions, proposing an onto-ethical intervention whereby ideas of nourishment and embodiment are nudged out of their conventional boundaries.

Contemporary science fiction, examined thus from an onto-ethical perspective, is better positioned than mainstream literature to comment on the complex interaction between geological issues that characterize the Anthropocene, the growth of Capitalism, and various innovative technologies that make possible things from genetic engineering to extra-terrestrial explorations because of its commitment to recording how technology affects our lives. Cyber fiction, a genre of science fiction, has been prescient enough to envision the kind of materialities the imbrication of technology will bring about as far back as the 1970s and 80s.

The Windup Girl, however, does not belong completely to the cyberpunk genre since it is nearly as devoid of computers and other digital mediating technologies and is better

classified as “biopunk.” Biopunk, which is etymologically derived from “biology” and “cyberpunk” can be defined as a subgenre of science fiction that deals with the societal effects of biotechnology and genetic engineering. Whereas cyberpunk describes ways of enhancing the body by mechanical implants, biopunk refers to the changes that happen not just to our bodies but to our cells. In short, biopunk emphasizes biological orientations that happen as a result of genetic engineering. Whereas cyberpunk novels limit their scope to questions of corporeality, biopunk novels follow a more holistic approach in that they implicate gastronomic practices as part of posthuman becomings.

The novel opens with a market scene in which the reader is introduced to GMOs and their dubious status. Examining a new fruit called “ngaw” that is “translucent and veinous”, one that resembles “pickled onions served in martinis”, Anderson says “It shouldn’t exist. Yesterday, it didn’t” (2). This scene underscores the deep-seated suspicion that the present century has with regard to the future of food technologies. Having set the novel in a distant future where various plant diseases have rendered normal agricultural practices obsolete, Bacigalupi imagines for us the culmination of the technological age characterized by mega corporations plundering the limited resources of the earth, leading to a scenario in which food becomes the most prized commodity. The novel refers to the historical present as a time when energy expenditure is at its peak, with no concomitant increase in forest cover or reduction in global warming, so that the world is headed towards a definite doom. The result of all this is human and animal life driven to the point of precarity and the rise of new forms of disease which necessitate new food habits and gastronomic orientations.

Having established that GMO technology is inevitable in the near future, Bacigalupi turns his attention to whether it will engender the same set of anthropocentric and hierarchical relations as they exist in the present power-hungry world or whether the posthuman underpinnings of such a move will induce any positive change. The answer Bacigalupi gives

us is that as long as dualistic philosophies rule the world, there is no escape from the old vices. An example of this trend is provided in the novel by global corporations including AgriGen that dominate the world economy through their control over GMO technology and the food supply.

The Windup Girl explores the disintegration and regeneration of economic, ecological, and human ideologies through the eponymous windup girl, Emiko, and the biotechnologically modified food produced by the Agri-corporations. Bacigalupi weaves these strands together in a way that avoids reifying conventional boundaries used to separate the purportedly “human” from the “non-human.” In the novel, Emiko, who occupies the ontological position between a human being and a robot, brings to light the contradictions of the humanist prejudices inherent in anti-posthuman discourse, as she is discriminated against by nearly every character in the novel for being “non-human.” Used as a sex slave by Raleigh, Emiko is shorn of her individuality at every step. The novel calls upon the reader to identify with Emiko and her plight by relinquishing a rigid notion of the “human being” and viewing her as “new” only from a position invested in preserving the conventional liberal-humanist subject.

Most of the scholarship in literary food studies till now has aimed at addressing culinary descriptions in the text as a way of commenting on the socio-cultural milieu that is depicted therein. Situating the discourse on food and the cultural practices that surround it within posthumanism and its anti-dualistic philosophy is a fairly recent development. Whereas traditional scholarship on food addresses it as incidental to the main text, as a digression or an embellishment, posthuman gastronomical discourses embed food within the context of human biology and the organic/inorganic dialectic it is built on. Calling attention to the semiotics of food, Roland Barthes muses: “For what is food? It is not only a collection of products ... It is also, and at the same time, a system of communication, a body of images, a protocol of usages, situations, and behaviour.” (19). If Barthes is here trying to expand the ordinary ideas

surrounding food through a postmodern semiotic enterprise, by situating food in a matrix of signifying systems, what posthumanism calls for is a paradigm shift in which food becomes inseparable from our materiality.

Food establishes the ontological position of the human vis-a-vis other beings. Unlike plants which can produce their own food, humans are dependent on other life forms for their survival. This includes both plants and animals. The human is historically defined in relation to the Animal which serves to bring out the superior qualities of the human-like sentience, reasoning ability, consciousness, compassion, and so on as against the more biological instincts the latter is associated with. As such, it is considered taboo for a human to behave like or descend to the level of an animal. However, this taboo is broken in the case of food habits where it is not forbidden to eat animals. The human can partake of the being of other species through the act of consumption. Humans have broken species-barriers not only to expand food sources but also as a result of the craving for greater variety which is justified by the human's supposed superiority over all the other species. The eclectic nature of human food habits has allowed us to better our chances of survival unlike many other species that died out because of their inflexible food habits.

Claude Levi-Strauss in his book *The Raw and the Cooked* (1970) argues that cooking is the earliest site where the fundamental distinction between nature and culture and humans and other species was established (1-32). Human culture and civilization, as such corresponds to the uses that could be drawn out of fire, from combustion for food and fuel to war and outer-space explorations. Fire becomes the originary Promethean flame, the incremental uses of which, served to fence the human as a category from the Animal. As Bruno Latour observes in his seminal text, *We Have Never Been Modern* (1993), the "very notion of culture is an artifact created by bracketing Nature off" (104). Latour argues that the Modern humanist project, by

bracketing off Nature, perpetuates the notion that the human is a pure category and suppresses heterodox viewpoints that argue in favour of the multiplicities that make up human life.

Food is generally thought of as pre-given and natural and the kind of human decisions that go into its modifications are glossed over. That is why the prospect of genetically modified crops strikes many people as outrightly sacrilegious. At a time when environmental activists raise hue and cry against the undesirable consequences of genetic modification, the question that must be asked is whether such apprehensions have any scientific backing or whether they are the products of selective amnesia regarding the history of agriculture. Jamie Metzl in his book *Hacking Darwin* problematizes the very notion of “natural” food. He asks:

Is organic corn natural? Go back nine thousand years and it would be impossible to find anything resembling today’s corn. You’d find a wild weed called teosinte with a few sad kernels hanging from it. Add millennia of active human manipulations and you get the beautiful, yellow behemoth gracing our picnic tables today. So many of the other fruits and vegetables we eat, even the organic ones from Whole Foods, are in many ways our human creations coming from conscious and selective breeding over millennia. Are they natural? (72)

As this excerpt proves, humans have deliberately intervened in the life cycles of other species, practised selective breeding of animals and crossbreeding of plants, over long years that what we see around us today is not Nature in all her pristine glory, but Nature inflected by human agency. Does this mean that our gastronomic practices have for millennia been inscribed by posthuman ideas? From a spiritual perspective, the answer is yes. However, it is only in the late 20th century, and more so in the early 21st century, that the rupture of ontic barriers exposed by posthumanism becomes manifest as a result of the great strides we have made in the field of science and technology. It is also in this period that the Earth’s history coincides with the Anthropocene, the geological age named so for the impact human activity

has had on the geological record, necessitating a deeper probing of the status of human beings in relation to their environment.

The ontological split between humans and nature is by no means a universally held human point of view, and it is important to recognize that while posthumanism offers an alternative perspective to dominant European epistemology and ontology, there are other ways of knowing that do not create a dualism between nature and culture. However, this paper argues that posthuman gastronomies as well as materialities are specific to the present age since applying the label “posthuman” as a coverall term for any trans-historical non-dualistic tendency fails to do justice to the question of technology with which the posthuman discourse is entwined. Though technology, as David Wills argues in his book *Dorsality*, arises “as soon as there are limbs, as soon as there is bending of those limbs, as soon as there is any articulation at all” (371), it is only the exponential nature of technology as evidenced by posthuman becomings effected through human-machine interfaces and gene hacking technologies, and coinciding with the geological pressures of the Anthropocene, that maximises the viability of the posthuman.

Food studies has yet to fully reckon with nonhuman agency. Typical in food studies is what Jane Bennett calls the “conquest model of consumption” (133), a conception of eating that involves humans consuming and digesting inert matter. This conquest model of production and consumption disregards the agency of the vegetable or animal, bacteria, soil biota, watersheds, climate, and all the nonhuman things and systems that act, influence, shape, and make food for humans possible—or not. Also, the fundamental difference in the attitudes towards plant breeding and human genetic mutations is predicated on the so-called nature/culture divide. As Haraway says, “The distinction between nature and culture has been a sacred one; it lies at the heart of the great narratives of history and their genetic transmutation

into sagas of secular progress” (217). Actually, what drives genetic engineering in agriculture is the conviction that there is some primal division between nature and culture.

Agri-businesses consider the genetic code of plants as purely information that can be mixed in innovative ways to yield new varieties of flora that resist the kind of afflictions the previous ones succumbed to. It is the same conviction that causes eyebrows to raise when the same technology is proposed for the human. Hayles argues both cybernetic as well as biotech researches share a misapprehension in this regard. They believe that information is “an entity distinct from the substrates carrying it” (xi). The only difference is that if the information is digital in the case of computing, it is biological in the case of genetic engineering. For Hayles, such convictions are disastrous since they privilege information over the substrate it is embedded in. Not only the body and software, but also everything in the universe, including the space-time continuum, then becomes reducible to informational codes. The complex interfaces between materiality and information are hastily discredited since what matters primarily is information. The dualistic perception of materiality and information will further lead to a resurrection of Cartesianism that will lead to a new hierarchization in which materiality becomes inferior to information.

Biotechnology, at present, is characterized by its interfaces with computer science. The genetic code is compared to computer code not just as a means of analogy, but to pioneer research in genetics along the same lines of computing. Bioinformatics, as this interface between biology and information sciences is known, conceives of a dynamic relationship between biological and informatic codes so as to achieve its aim of disembodied information. It employs DNA-analysing software to translate genetic samples into computer codes. By using informatics to understand the genetic codes inscribed in the human body, it encodes biology in the form of information. Once materiality becomes translatable in computational terms, the dependence of the genetic code on a biological substrate can be overcome. Such a step points

not only to the “decoding” of the encoded information so as to re-achieve material instantiation but also to “remixing” or “recoding” so that new materialities that are advancements on the already existing code in terms of better health and survival possibilities can be generated. In short, bioinformatics forges an unprecedented relation between genetic and computer codes to create posthuman bodies.

As already mentioned, there are inherent dangers in reducing the body to a set of informational patterns. Informatic essentialism, as this reductionist philosophy may be named, understands the body as essentially made up of information, and as such perpetrates the folly of relegating the body to the margins of the discourse on disembodiment. Posthumanism, on the other hand, does not fall prey to the blandishments offered by the prospect of a disembodied future since it works within a non-dualistic framework. Since the biology/information dialectic involves a certain highhandedness of technological systems in manipulating materiality, posthumanism warns against bioinformatic overreach.

Francis Fukuyama’s *Our Posthuman Future* makes an essential separation between human and agricultural biotechnology. Fukuyama, whose tone in the book is almost prophetic, warns about a future where human biotechnological enhancements become so widespread and common that they will spell the end for the human as a species. He cites several examples that show that technology is developing on an exponential curve which means that unlike in the past, it does not take a long time for the germ of an idea to become a reality that changes the very nature and organization of the world. A case in point is the Human Genome project, which contrary to popular expectations, took only 15 years to complete. The realization that there are far fewer genes in the human body than predicted makes Fukuyama doubly apprehensive. The aim of the Human Genome Project was to decode the genetic structure of human beings and dematerialize the human into a series of codes, like what is done in computer programming, to be remixed in interesting permutations so as to engender mutant offspring. Fukuyama foresees

a future in which the hubris of the Human Genome Project will be expanded to its highest potential. His ominous suggestion then is that the scientific community should stick to a mild version of gene hacking technologies as “human biotechnology differs substantially from agricultural biotechnology insofar as it raises a host of ethical questions related to human dignity and human rights that are not an issue for GMOs” (213). Fukuyama clearly subscribes to the essentialist view of the human; the centrality of the human being and the hierarchal ordering that situates them above nonhumans and nature; and “Factor X”, a minimum core of humanity, which he calls “the human essence, the most basic meaning of what it is to be human” (150).

The Windup Girl should be Fukuyama’s worst nightmare since it illustrates what happens when biotechnology breaches the sanctity of the human. Emiko, with her status as someone who is readily “consumable”, emerges as a metaphor for genetic engineering technologies and the mutant varieties of food produced thereby. The novel expatiates on trans-species interconnectedness and machinic becomings with insight and resists the pull to be another post-apocalyptic novel. Bacigalpuí portrays the old humanistic position through the characters in the novel who objectify Emiko. Even Gibbons, who is a scientist, cannot escape the social conditioning of the Enlightenment ideology that has persisted through the centuries. When he tells Kanya that “windups have no souls” (345), he is declaring his subconscious belonging to a species that comes bundled with an animating soul.

Though there is much debate regarding the nature of the soul in Western philosophy and how it differs from the mind and its reasoning faculty, we remain indebted to Rene Descartes and the Enlightenment thinking of the 18th century for the body/soul dualism that has percolated down into discourses of the posthuman. Explaining the distinction between the body and the soul in *The Passions of the Soul*, Descartes says:

Anything we experience as being in us, and which we see can also exist in wholly inanimate bodies, must be attributed only to our body. On the other hand, anything in us which we cannot conceive in any way as capable of belonging to a body must be attributed to our soul. Thus, because we have no conception of the body as thinking in any way at all, we have reason to believe that every kind of thought present in us belongs to the soul. (334)

Descartes explains that the soul is entwined with corporeality, and that it would be erroneous to think of the soul as being confined to any one part of the body, say the brain or the heart, for “the body is a unity which is in a sense indivisible because of the arrangement of its organs, these being so related to one another that the removal of any one of them renders the whole body defective” (339). He goes on to say that, though this is the case, there is a certain part of the body where the soul exercises its functions with greater animation, and hence which may in a certain sense be called the seat of the soul. He identifies it as “the innermost part of the brain” (340) which corresponds to the location of the pineal gland.

The Cartesian notions of body/soul duality, critiqued expertly by Gilbert Ryle in his book *The Concept of Mind* (1949), survive in the novel mixed with Hindu and Buddhist mythologies, elevating the soul to the rank of some kind of intangible animating agency that, being immutable, can survive death and pass into other bodies. Like an animal or a machine part, Emiko is “soulless” and therefore not deserving of dignity. In one of the scenes that transpire at the brothel, a black-bearded gaijin stares at Emiko as if he is examining an insect under a magnifying glass. It can be seen that the novel repeatedly attacks the aura of authenticity associated with the liberal humanist subject through such references.

Humanism, predicated on the inherent superiority of the human subject, as a ground for knowledge as well as experience, is replaced here by a posthuman philosophy that not only critiques the human/nonhuman dichotomies of Western thinking but also the historical

exclusions various marginal subjectivities within the category of the human have been subjected to. In *The Windup Girl* too, the conventional image of the human being dissolves, as all the characters appear caught in a space between a disintegrating old paradigm and a still-amorphous paradigm yet to emerge in its place. It is only by relinquishing the humanist paradigms of thought that the reader can identify with Emiko and her plight.

Conclusion

The Windup Girl offers itself to be analysed through a number of perspectives, so much so that its engagement with diverse socio-political domains leaves behind a realisation of the extent to which anthropocentrism has rendered a posthuman reclamation of the biosphere necessary for our planet's future. By reading the text through the optic of posthuman gastronomy, this study has demonstrated how the convergence of Emiko's ontological liminality and the corporate GMO food economy fundamentally disrupts traditional humanist binaries. This twin framework not only repositions posthuman subjectivity and gastronomy within overlaps between the organic and the synthetic but also leads to a revaluation of onto-epistemological dualisms. The novel, finally, works as a system of warning signs that exposes the folly of humanistic doctrines that adulterate non-binary forms of technology and embodiment. It makes a rallying cry for the enshrinement of a new bioethics based on boundary-blurring, and enacts a radical subversion of the conventional notion of fidelity to a static identity. In this sense, it is remarkable that the novel ends by hinting at a post-cataclysmic setup. The flood depicted at the end of the novel generates an open space within which to reimagine and then build a future based on collectiveness rather than fragmentation and megalomania. Bacigalupi invokes the purgative properties of water here by dipping into the repository of Western as well as Eastern mythic systems where flood serves to portend a new world-order. In the novel's epilogue, Emiko is shown as readying herself for a world in which differences will have greater acceptability. It is hinted that the new world will be more diversely

posthuman, one in which the sacred boundaries between the organic and the synthetic will have no place, and transversal becomings (enacted simultaneously in the mechanics of the food supply and the vectors of posthuman ontology) will come to be accepted as the most efficient solution to the menace of an anthropocentric world.

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