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Silvia BOLLO VALIENTE

Vonnegut's *Cat's Cradle*: Contemporary Explorations of the Sublime

"Busy, busy, busy, is what we Bokonists whisper whenever we think of how complicated and unpredictable the machinery of life really is"
(Kurt Vonnegut, *Cat's Cradle*)

1. INTRODUCTION

This paper explores Kurt Vonnegut's novella *Cat's Cradle*, set after the Cuban Missile Crisis and first published in 1963. This science-fiction story has been commonly interpreted as an allegory

of the Cold War. The book was also part of Vonnegut's master degree dissertation in anthropology, defended in 1971. Vonnegut's background on biochemistry, technology and science was also an important influence on this work. Another aspect that critics have identified as influential is the fact that Vonnegut witnessed the Dresden bombing between Feb.13-15, 1945. Indeed, the title of the book refers to the day Hiroshima was bombed, and the unnamed narrator ponders on the impact of this event upon the lives of American people. The narrative opens with this inquiry and a reference to Nobel laureate physicist Felix Hoenikker, a fictional character supposedly the inventor of the atomic bomb, who is described by his son as playing the cat's cradle game while the bomb was dropped.

The research approaches Vonnegut's work from the contemporary notion of the technological sublime, a concept that, rather than excluding technology, as Romantic conceptions of the sublime originally did, embraces it. In order to establish a basis for the development of this stance, the paper draws a background on the relationship between science, technology and art, and between the sublime and technology. Finally, the introduction concludes with an exploration of David Nye's concept of "technological sublime", as related to a very brief background on dynamic systems theories or chaos theories. These latter theories will lead to the importance of unpredictability, exemplified by the children's game that gives name to the novella, 'cat's cradle'. The paper also approaches the topic of unpredictability by drawing a parallel with the mythological concept of *metis*. Common aspects in this interdisciplinary network of relations is the emphasis placed on the possibilities offered by the exploration of disorder, rather than embracing order. Therefore, in Vonnegut's work, the role of science and technology complies with the notion of terror as the main source of the sublime, and the sublime as evidence of vulnerability.

Following this basis, the structure of the paper involves various sections that go from a general presentation of concepts to a more precise exploration with regards to Vonnegut's work, including the contextualization of *Cat's Cradle* with regards to the postmodernist tradition, the exploration of unpredictability with regards to the setting and the human relationships established with regards to power, gender and randomness. Finally, the paper includes a close reading of *Cat's Cradle* and of the aspects that represent all these ideas.

2. RELATIONSHIPS BETWEEN SCIENCE, TECHNOLOGY AND ART

In "The Art and Science of a Long-term Collaboration", Alf Linney and Alexa Wright establish art and science as reciprocal collaborators. Despite the fact that science and art correspond to different spheres of human behaviour and are oriented to wide and different interests, both share the common target of reinforcing human understanding and "extend our experience of the world." (Linney and Wright, 2006, n/p)

Other scholars, such as Leon Surette, also emphasizes that science and art affect humankind behaviour and way of thinking, and so does the development of technology. According to Surette, technology and art also share some common features, but they may differ in some others. For instance, whereas art is not meant to change the world, machines are expected to do so. Contrary to Linney and Wright, who believe that science and art collaborate to reinforce the understanding and experience of the world, Surette considers that art's intentionality can be rather an escape from science and technology (Surette, *Art in the Age of the Machine* 2013, n/p). Since art affects society in a different way to science and technology, Surette establishes three types of relationships between art and society: sociological, religion, and historical. The latter would be the recording of the other two, being the first one the relation between humans and the environment, and the second one the relation between humans and the forces intrinsic to the environment and those beyond (Surette, 2013, n/p).

According to Surette, art cannot evade the alterations that science and technology impose on human behaviour. Everything is connected, and although changes could seem frenetic and chaotic, Surette assures that "the more hectic the pace, and the more profound the alterations that machine culture imposes on society, the greater is the impulse of artists either to resist or to co-opt those alterations" (Surette, 2013, n/p). Moreover, as it will be explained later on, the relationship between art, science and human behaviour is exposed to unpredictability, which enlarges the range possible alterations that technology may impose on society and, consequently, upon artistic production.

2.1 The Impact of Dynamic Systems Theories (Chaos Theories) in postmodernity

In the second half of the 20th century, awareness of the complexity of the world as a network of systems became more obvious. Consequently, attention to dynamism, predictability, and non-predictability in the evolution of such systems increased. In her work *Chaos Bound: Orderly Disorder in Contemporary Literature and Science*, Katherine Hayles, a well-known scholar with a background in chemistry, philosophy and narratology, discussed the relationship between 20th century science models and contemporary postmodern concerns. She states that "scientific theories and models are culturally conditioned" (Hayles, 1990, p.xi). Hence, not only science and technology affect humankind behaviour but they also respond to society demands.

Drawing on the work of Nobel Laureate Ilya Prigogine, Hayles tried to explain system behaviour and the importance of the initial conditions of the system. In this regard, she explains that "small fluctuations on the microscale could, under appropriate conditions, quickly propagate through the system, resulting in large-scale instabilities or reorganizations" (1990, p.5).

Positing a parallel between the biological-chemical models and the paradigms used in other disciplines, Hayles, as well as Prigogine and his co-author Isabelle Stengers, focused on explaining how various disciplines in the 20th century set out to explore the possibilities of disorder, focusing on the mechanisms that made the unpredictable "a fact of life" (Hayles, 1990, p. xii).

The unpredictable is also related to the idea of *metis*¹, a non-expected random change that may lead to an unpredictable end. As Surette observes, sometimes the instrumentality of technology makes change unpredictable. Hence the benefits can be questioned, and, consequently, technology can be seen as a threat. (Surette, 2013). The children's game that gives name to Kurt Vonnegut's work, *Cat's Cradle*, exemplifies these unpredictable ends.

Related to the concept of *metis*, in his work *Technology Matters: Questions to Live With*, David Nye also embraces the role of unpredictability by stating that "neither the technologies of the future nor their social uses are predictable, [...] they emerge within shaping political and social contexts, and they can be used for many different ends". (Nye, 2006, pp. 2012). Nye, therefore, agrees with Hayles's conception of technology being culturally conditioned. Every new device needs to be proved in quotidian life, and just then, its different uses would arise. "We have also excelled in finding new uses for inventions, and this has had many unexpected and not always welcome consequences" (Nye, 2006, p.226). Kurt Vonnegut's work, *Cat's Cradle*, will exemplify these not welcome consequences new inventions may have.

3. THE SUBLIME AND TECHNOLOGY

David Nye has explored the idea of a technological sublime. Technology has typically been the origin of fictitious dystopias that "evoked the terror of living in a society where technologies became the basis of massive state control" (Nye, 2006), p. 209), as in H.G Wells' *When the Sleeper Wakes*, George Orwell's *1948* (Nye, 2006) or more recently in productions such as Charlie Brooker's *Black Mirror*, a British television series. These works portrait the important role technology plays in the evolution of humanity, the government, employment, safety, cultural diversity, or social construction (Nye, 2006, p. 209). Therefore, as Nye argues, the sublime does not have to be a concept that necessarily excludes technology. Rather, it embraces it.

3.1 A Brief Evolution of the Concept of the Sublime

In order to establish a basis for the analysis of this concept, it is important to trace a background on the evolution of the concept of sublime throughout time. From the Baroque to Romanticism, the observation of the forces of nature had been associated to a sense of ecstasy and beauty. Nonetheless, from the 19th century this experience of thrill becomes increasingly related to the conquest of technology over nature. Jos de Mul emphasizes the ambiguity and ambivalent character of the notion of the sublime, and establishes its origin in a Greek essay written in the first century by Longinus. (De Mul, 2015, p.14).

¹*Metis* is a Greek term that refers to uncertain and obscure knowledge. It occurs when a disruption in a familiar and stable reality takes place and originates an unpredictable shift (see López-Varela *Technopoiesis: Transmedia Mythologisation and the Unity of Knowledge. An Introduction*, 2017).

The ambivalence of the sublime also came to the fore in "the Romantic discussion on the extension of the scientist's free will and the performance of operations that may follow an unsuitable unethical path, as seen in Mary Shelley's *Frankenstein or the Modern Prometheus*" and also "in the development of the dystopian genre in Science Fiction." (López-Varela, 2017, p.19). In his essay *Peri Upsous (On the Sublime)*, Longinus connects the notion of the sublime to the landscape and even the divine, and assures that the sublime "must address grand and important subjects and be associated with powerful emotions" (De Mul, 2015, p.15). Then, de Mul traces the evolution of the notion of the sublime from "one of the key notions in the romantic reflection on nature and art" (2015, p.14) to "a more contemporary conception of the experience of the sublime as an evidence of our vulnerability that contrasts the idea of beauty" (2015, p.15). This latter conception could also be related to Freud's idea of the 'uncanny' as a frightening feeling when facing unfamiliar situations. (Freud, 1917-1919), and Edmund Burke's establishing of terror as a source of the sublime. According to Burke, sublime is "the strongest emotion which the mind is capable of feeling" (1839, p.82) and "whatever is fitted in any sort to excite the ideas of pain and danger, that is to say, whatever is in any sort terrible, or is conversant about terrible objects, or operates in a manner analogous to terror, is a source of the sublime" (1839, p.82).

Immanuel Kant also explored the concept of the sublime, differentiating the "mathematical sublime" and the "dynamic sublime". The mathematical sublime would consist on the humankind being forced to absorb something too large to be conceivable by the imagination, and the dynamic sublime would consist on the intensity and power that strikes terror and even annihilate us (although it is not necessarily a real annihilation, also could be a symbolic one) but at the same time triggers a belief of superiority (Deleuze, 1995, p.53).

Nye also establishes two different types of sublime, the "popular sublime" and the "philosophical sublime". The popular sublime is the one based on experiences perceived by the observer (Sousa, 2010). This experience is also associated to emotions such as excitement, terror, expectations and sense of social cohesion, but never a sense of threat to life (Nye, 1994, p.283 cited in Sousa, 2010, p.105). It is thus different to Kant's dynamic sublime. These emotions may have its origin in the historical role of technology as a tool to create both "the concept of modernity and national identity" (Sousa, 2010, p.114).

Accepting that postmodernism is a condition and attitude to life that refers to the contemporary status of knowledge (Lyotard, 1979), in literature, this experimental condition reaches the new aesthetic of sublime through fantasy, representing a contrast to the stream of Romanticism. Thus, David Nye considers postmodernism as the supremacy of technology over nature, we cannot avoid being technological, neither return to nature anymore. The fact and realization that we can be destroyed by the force of the sublime, either nature or technology, is associated to powerful and contradictory and ambiguous emotions, awe and fear, attraction and repulse. (Nye, 1994).

Technology develops power relationships that evidence the ambivalence of the technological sublime. (Sousa, 2010, p.106). Humans have stopped comparing their power with the power of nature to compare their power among their own species, the fight for power is now between human individuals and their own accomplishments. According to Nye, the technological sublime "contains both the idea of reason in constant evolution and the idea of permanent disaffection". (Sousa, 2010, p.109).

These considerations were also explored by Nye in *Technology Matters: Questions to live with*, where he assures that the World War II was the turning point of the evolution of technology towards safety into insecurity, considering warfare as an evidence of "the more powerful the system, the greater its destructive potential when it goes awry" (Nye, 2006, p.221). As contemporary technologies make more difficult the attack of military targets "civilians became the main victims instead, and the attack on Hiroshima was the 'logical result'" (E. Nye, 2006, p.221). The atomic bomb would be an evidence of this ambiguous character of the sublime, since nuclear energy can be used for energy supply, but at the same time contains the power of annihilation. (Sousa, 2010, p.110). In this case, technology is not to serve humanity, but to destroy it.

After the atomic bomb the concept of the technological sublime continued to evolve, but the link between technology and human agency became more blurred, and people became mere spectators in the distance. (Sousa, 2010, p.110). The difference between life and a potential death depends on a button that is in the power of an elitist circle of society.

Linked to this evolution of the technological sublime, Nye has established the relationship between the technological sublime and the creation of a national identity as an American exclusivity. Due to the lack of ancient traditions, and the prohibition of a state religion according to the American constitution, the virtue of the American democracy could be alternatively stimulated by the experience of sublimity (Nye, 1994, p. 36 cited in Sousa, 2010, p.111). The creation of an American identity included the technological achievements in an international scope. (Nye, 1994, p68 cited in Sousa, 2010, p.111).

4. A CLOSE READING OF CAT'S CRADLE AND THE TECHNOLOGICAL SUBLIME

4.1 The Context of *Cat's Cradle*

During the Second World War, Kurt Vonnegut was a prisoner in Germany. In February 1945, he witnessed the bombing of Dresden, and his experience affected him so deeply that it inspired him to write his most famous work, *Slaughterhouse Five* (1969).

Cat's Cradle was first published one year after the Cuban Missile Crisis, in 1963. It is a fictional story whose characters live a real moment of history, the bombing of Hiroshima. The horror triggered by the demolishing consequences of the atomic bomb leads the protagonist, John, to write a book called *The Day the World Ended*, which brings to the fore Vonnegut's own experience and the previously mentioned concept of art as a way of escapism or resistance to the profound alterations that the machine culture imposes on society.

During the Cuban Missile Crisis, there was a constant tension due to a potential imminent nuclear war that could reach worldwide expansion. This same tension is present in *Cat's Cradle*. In this case, it is the persistent reference to a liquid substance called *ice-nine* that could turn all the water of the world into ice in just a few seconds. Such substance was created by the same man who created the atomic bomb, the fictional character named by Vonnegut Felix Hoenikker.

Ice-nine can be seen as representing Nye's ambivalent notion of technological sublime due to the power relationships developed by this technological innovation. Originally, the only possessor of *ice-nine* was its creator. However, a series of accidental events (perhaps involving the notion of *metis*) take place, and the substance ends in the possession of his offspring. As the story advances, the United States of America and the Union of Soviet Socialist Republics seek the substance too. This is possibly the main reasons why *Cat's Cradle* is commonly considered an allegory of the Cold War.

However, the sense of the fragility and the unpredictability of world events is also an important thematic concern, linked to the darkest side of science. As Benjamin Kunkel says in the introduction to *Cat's Cradle*, the most realistic feature of Vonnegut's work "is the idea of a technology capable of destroying civilization in a day" (Kunkel, 2008, cited in Vonnegut, 1963, p.ix). Therefore, in Vonnegut's work, the role of science and technology complies with the notion of terror as the main source of the sublime, and the sublime as evidence of vulnerability.

4.2. *Cat's Cradle* and its postmodern aspects

Katherine Hayles defines cultural postmodernism as the realization that what used to be considered the essential of human experience are social constructions and not natural facts. Hence, she assures that postmodernism can be thought of as a "denaturing process" that "carries the technical sense of altering macromolecules" (Hayles, 1990, p.265), as in the study of DNA.

Hayles also points out that this denaturing process conforms a metaphor for deeper implications, and establishes four waves of postmodernism: the deconstruction of context, time, nature and human. This latter deconstruction, according to Hayles, would not only reconstruct the concept of human experience but would anticipate and imply the post-human. (1991, 266).

In a way, these conceptions of postmodernism may be appropriately applied to *Cat's Cradle*. The novella is full of metaphors of construction, deconstruction and alterations. On the one hand, for instance, the infant's game that gives name to this novella, *cat's cradle*, which consists on the deconstruction and reconstruction of unpredictable figures with a piece of string, and whose deeper implications will be analysed later on.

On the other hand, *ice-nine*, the substance around which the plot develops, is the result of the alterations of water molecules. The end of the story coincides with the almost total annihilation of human life on Earth, which triggers a sense of denatured world and the reflection on human irresponsibility.

Hence, *Cat's Cradle* can perhaps comply with Hayles conception of postmodernism as the anticipation of the post-human era. "Other times have had glimpses of what it would mean to live in a denatured world. But never before have such strong feedback loops among culture, theory, and technology brought it so close to being a reality" (Hayles, 1990, p.293).

The structure of the novella is not composed by chapters but rather short episodes that the protagonist and narrator, John, remembers. As Benjamin Kunkel states in the introduction to Vonnegut's narration, *Cat's Cradle* is "an album of sketches" (Vonnegut, 2008, p.viii). In relation to the previously mentioned idea of Hyles of the unpredictable as a "fact of life" (Hayles, 1990, p. xii), this characteristic structure allows the writer, and the reader, to explore the possibilities that disorder offers rather than embrace the order, and each episode works as different pieces of the mechanism of unpredictability.

4.3. Human relationships in *Cat's Cradle*

The protagonist narrator John (who calls himself Jonah)²ends up in the fictional Caribbean Island of San Lorenzo, where Felix Hoenikker's offspring also lives. This is one of the poorest countries on Earth, ruled by a dictator called "Papa Monzano" who threatens to impale all opposition, particularly those who practice the unofficial religion of the island, Bokononism. Although Christianity is the official religion, many people in the island practice Bokononism, a religion inspired by a god called Bokonon, who keeps writing the *Books of Bokonon* and considers humanity to be organized in teams called *karass*, which act according to his will without the noticing what they are doing (Vonnegut, 2008, p.2). At first, John thinks that what led him to his *karass* - to which Felix Hoenikker's offspring (Newt, Angela and Frank) also belong- was the book he never finished, *The Day the World Ended*. However, later on he discovers that this is not the only pivotal element.

The strange fictional religion of Bokononism, with its nihilistic odd rituals such as emotional communication by joining the soles of the feet of two people, contemplates the interactions of the world as part of a larger system that is always changing. This system is orderly to a certain point, but its openness causes it to keep changing, and therefore being exposed to some chaotic elements that difficult organization. The *karass* are disorganized people, destined to meet eventually and to create a community with a duty. Although *The Books of Bokonon* indicate that a *karass* "ignores national, institutional occupation, familial and class boundaries" (Vonnegut, 2008, p.2), in the end this people with no sense of belonging are destined to connect in an organized system.

Although not part of his *karass*, John meets a couple during his flight to San Lorenzo. Hazel and her husband Lowe Crosby are a couple that have planned to move their bicycle factory from Chicago to the Republic of San Lorenzo. Hazel was born in Indiana, and feels really excited every time she recognizes a Hoosier, that is, someone born in Indiana. She immediately identifies John as a Hoosier, assuring that every Hoosiers have the capacity to be "in charge of everything" (Vonnegut, 2008, p.64). Her husband adds that "You can't go anywhere a *Hoosier* hasn't made his mark" (Vonnegut, 2008, p.64), and cites as example the author of *Ben Hur*, one of the most influential novels of the 19th century, or the poet James Whitcomb Riley. The couple represent the prototype of extreme nationalism and the common necessity to find a national counterpart everywhere they go. This sense of 'belonging' offers relief in the face of foreign anxiety. A closed orderly system, where each part or participant belongs, is experienced as a comfort zone. On the other hand, open unpredictable systems where people seek to connect also create a certain insecurity.

Alongside the notion of closed and open (dynamic) systems, another issue is the impact of technology upon the construction of American identity (Nye, 1994, pg. 68 cited in Sousa, 2010, p.111). In *Cat's Cradle*, these international achievements are embodied in the manager of a new hotel in Istanbul, the new Ambassador to Yugoslavia, the Hollywood Editor of *Life* magazine, or, in Hazel's words, "a military-whatever-he-is in Tokyo" (Vonnegut, 2008, p.64), whose actual role does not seem to be all that relevant except for the fact that he is, like all the rest, a Hoosier.

Hazel asks every young Hoosier she meets to call her *Mom*, probably to reassure herself that she is part of the community. John describes her face expression when he calls her mom for the first time as if "some piece of clockwork had completed its cycle" (Vonnegut, 2008, p.65). The reference bring to mind Anthony Burgess' novel *Clockwork Orange*, published in 1962, one year before *Cat's Cradle*. Burgess' dystopian novel also explored the idea of community in urban gangs, claiming that he was inspired by his wife's beating by a gang of drunk American soldiers during World War II. The metaphor of the clock mechanism mocks the tendency of Hazel and Lowe Crosby to pursuit the encounter with other Hoosiers, almost as a

²The Biblical story of Jonah may have an important allegorical intertextual meaning in *Cat's Cradle*.

metaphor of the inevitable relationship between technology and human behaviour. Indeed, Nye identifies the emergence of technology as conditioned to social context.

There are also interesting analogies between *Metis*, one of Zeus' wives in Greek mythology, and Mona, a character of *Cat's Cradle*. Mona is the adopted daughter of San Lorenzo's president "Papa" Monzano. Whereas *Metis* was predicted to bear a son that would be more powerful than his own father Zeus, who, consequently, would be overthrown, *The Books of Bokonon* announce that Mona would marry the next President of San Lorenzo following Papa Monzano.

In the novel, Mona represent a hybrid 'mongrel' creature. On the one hand she personifies the traditional Romantic conception of the sublime in nature. John describes her as a "sublime mongrel Madonna" (Vonnegut, 2008, p.57) the first time he sees her in a newspaper. His descriptions of Mona focus on the traditional attributes of 'the goddess', mother-earth. John sees her as "the most heart-breakingly beautiful girl I ever hope to see" (Vonnegut, 2008, p.56), "her breasts were like pomegranates or what you will, but like nothing so much as a young woman's breasts (145).

However, Mona also embodies these unpredictable shifts associated to the notion of *metis*, the female personification of cunning (see Lopez-Varela 2017). Once John acknowledges that the consequences of accepting a position of President of San Lorenzo would involve his marriage with Mona, he accepts without no more hesitation.

After their first *boko-maru*, a bokononist ritual that consists on touching together the bared soles of their feet in order to achieve an emotional connection which John describes as a climax of the sublime, apparent in his intermittent telling (John is the narrator of the story), he confesses to Mona that he loves her. She replies that she does too.

However, it seems that she loves everyone else exactly in the same way, following Bokononism dictates. John forbids her to do the *boko-maru* with anyone else but him and, right then, a power exchange occurs. John experiments a sudden feeling of a dynamic sublime experience, a mixture of over-confidence and self-assurance mixed with terror and a sense of annihilation (Deleuze, 1995). Although it is not a threat to his life, John feels his masculinity threatened by Mona's free love. Influenced by a patriarchal society, where jealousy is supposed to be a sign of true love, he feels the need to take control.

John believes that he, as husband, has the power to decide over his future wife's freedom. Thus, John needs to claim his superiority over Mona as a woman and as a 'natural sublime'. This situation combines gender issues and the human condition of comparing their power with the power of nature and its control by technological man.

There is a very visual moment in which John transforms the fear into superiority or authority, the moment of the human overcoming nature. Once John has forbidden Mona to practice *boko-maru* with anybody else, she reproaches his bad concept of love. When John assures that monogamy is the only thing in marriage, Mona "was still on the floor, and I, now with my shoes and socks back on, was standing. I felt very tall, though I'm not very tall; and I felt very strong, though I'm not very strong; and I was a respectful stranger to my own voice. My voice had a metallic authority that was new" (Vonnegut, 2008, p.149). Nonetheless, Mona has still certain power over John, she is the combination of sublimity and unpredictability and John is still afraid either of her and losing her. John asks to be part of her religion and then, immediately, she says "Good. I love you" (Vonnegut, 2008, p.150). Apparently, the best way to deal with the sublime is not trying to surpass its power but to find the harmony.

4.4. Sublime Symbolism in *Cat's Cradle*.

The idea of terror as the source of sublime that Burke defends may be observed through typically gothic elements that appear in Vonnegut's work, as is the case of the cemetery. What John finds in the graveyard where Felix Hoenikker and his wife, Emily, were buried, combines again gender issues and sublimity. John's curiosity leads him to visit Felix's grave. The burial plot happens to be "an alabaster phallus twenty feet high and three feet thick. It was plastered with sleet" (Vonnegut, 2008, p.43). John's reaction is a huge exclamation and a sarcastic laugh about the inappropriateness of such a monument for the father of the atomic bomb. Nonetheless, it turns to be Emily's burial plot. The tombstone company assistant tells John that Angela, Frank and Newt bought that monument with the money Felix earned when was awarded with the Nobel Prize for creating the bomb, to which John replies "dynamite money" (Vonnegut, 2008, p.46). John marvels when reflects about the image that results from the combination of the violence of dynamite and the quietness and absolute repose of a

tombstone. Moreover, there may be a further implication considering the ironic shape of Emily's burial plot, a huge phallic monument to pay tribute to a silent and unhappy wife. Felix's marker, on the other hand, was simply "a marble cube forty centimetres on each side" (Vonnegut, 2008, 44).

Felix's mediocre tombstone renders his disaffection with his family. Felix lived by and for science. He was alienated from morality, from any sense of responsibility, from humanity. He was obsessed with truth and pure scientific research. Hence, Felix could represent Nye's conception of technological sublime as "both the idea of reason in constant evolution and the idea of permanent disaffection". (Sousa, 2010, p.109). He influenced Newt and Angela's lives in very determinant ways, especially Angela's. Felix withdrew Angela from school when her mother died so that she could take care of Felix and her two brothers. Newt's childhood was also marked by terrible memories about his father, who never talked or played with him, except the day the atomic bomb was dropped.

Newt narrates to John that Felix tried to play with him the day Hiroshima was bombard, and that he only remembers that was terrified by his face. Newt describes him with repulse, "His pores looked as big as craters on the moon. His ears and nostrils where stuffed with hair. Cigar smoke made him smell like the mouth of Hell. So close up, my father was the ugliest thing I had ever seen. I dream about it all the time" (Vonnegut, 2008, p.9). On the other hand, Newt tells John that Angela used to lock herself in her room and play the clarinet as a way of escapism from the life that her father obliged her to have. Newt assures that her "only escape from her bleak life with her father was to her room, where she would lock the door and play along with phonograph records" (Vonnegut, 2008, p.128). Once in San Lorenzo Angela played the clarinet. John catalogues her music as "a case of schizophrenia or demonic possession", as "violence", "disease" and "intolerable beauty" (Vonnegut, 2008, p.128). His reactions are described with terms such as "I was flabbergasted", "transfixed", with his hairs standing on end (Vonnegut, 2008, p.129). As it was mentioned beforehand, Surette states that art cannot evade the alterations that science and technology impose on human behaviour (2013, n/p). Angela finds in the art of music the escape from the machine culture his Father represents, and his violent creation is a mere consequence of the profound alteration she has suffered; "the more hectic the pace, [...] the greater is the impulse" (Surette, 2013, n/p).

In relation to this connection between artistic creativity as way of escapism, Newt opts for the art of painting and John for the art of writing. In San Lorenzo, Newt drew a painting that was "small and black and warty" (Vonnegut, 2008, p.117) and, as Julian Castle assures, - the founder of a charity hospital in San Lorenzo - it was dark and chaotic, about meaninglessness. Newt's painting was a cat's cradle.

Newt ponders about the meaninglessness of such a game, which is "nothing but a bunch of X's between somebody's hands, and little kids look and look at all those X's..." (Vonnegut, 2008, p.118), but then "*No damn cat, no damn cradle*" (Vonnegut, 2008, p.118). The fact that cat's cradle gives name to this novella may be justified by the importance of what it represents, the unpredictability, the order out of a chaotic bunch of X's, the continuum deconstruction and reconstruction of what it is supposed to be a reality. As Newt observes, there is not actually a cat nor a cradle, it is just a representation of reality, and considering Vonnegut's pessimistic position, it is just as meaningless as reality itself. Cat's cradle is in what Felix Hoenikker was interested the day the atomic bomb was dropped in Hiroshima. The chaotic figures he was creating between his hands echoed the chaos and destruction he had prompted in Hiroshima, as if it were a kind of *butterfly effect*. "Felix was a force of nature no mortal could possibly control" (Vonnegut, 2008, p.15).

Simultaneously, while Felix played with a string, Frank created his own chaos in the interior of a Mason jar. Newt narrates John that when he flew crying disconsolately after his father's attempt of playing with him, he found his brother hidden under a bush. He was spooning different kinds of bugs into the jar and shaking the container to make them fight. By the end of the story, when accidentally *ice-nine* made of Earth a frozen world, Frank had constructed an ants farm with two sheets of glass and studied how ants had learn to survive by melting drops of ice-nine and eating the corps of other dead ants.

Ice-nine is Felix's last invention before his death, which was caused, ironically, by this lethal substance. John goes to the Research Laboratory in which Felix Hoenikker used to work in. There, he interviewed Asa Breed, a former workmate of Dr. Felix. He told John that the last project Felix was working on was *ice-nine*, a substance that allows the atoms of water to freeze in few seconds, and that had a melting point of fourteen point four degrees Fahrenheit. But

Breed assured that it was only a project, and that *ice-nine* did not exist. Nonetheless, John lately acknowledged that *ice-nine* actually existed and that the offspring of Felix Hoenikker had divided it among themselves.

In Vonnegut's work, Felix created both the fictitious element *ice-nine* and the atomic bomb that was dropped in Hiroshima. Technology was naturalized and considered neutral until the first atomic bomb was dropped, since that day the harmony between nature and technology was broken, and technology became a threat to life. (Sousa, 2010, p.108). According to Nye, the atomic bomb would always be "a permanent, invisible terror that offers no moral enlightenment" 1994, p. 253 cited in Sousa, 2010, pp.108-9). This idea of "invisible terror" together with its destructiveness, the atomic bomb could comply Kant's notion of dynamic sublime and, consequently, *ice-nine* too, despite their different original targets.

The original function of *ice-nine* was to solve the problem American Marines had with mud. It was conceived as a possible tool to freeze the mud so that the Marines could carry their cumbersome objects without any difficulty. Nonetheless, as it was mentioned previously, Nye warns that inventions usually happen to have unexpected uses that are not always welcome (E. Nye, 2006, p.226), as it is the case of this liquid substance. Contrary to the final effect of *ice-nine*, the outcome of the atomic bomb was not that unpredictable, the bomb was created on purpose to annihilate and the bombing of Hiroshima was not accidental. Hence, only the *ice-nine* would comply the essence of Nye's technological sublime. John is overwhelmed by the discovering of such a powerful substance, "the more powerful the system, the greater its destructive potential when it goes awry" (Nye, 2006, p.221). As John and Asa Breed agreed, everybody would think that something like *ice-nine* could never exist, it surpasses the contemporary notion of sublime in every sense.

Ice-nine, as well as the atomic bomb, proves Nye's conception of technological sublime as a tool to create a national identity. As Dr. Breed confesses to John, Felix Hoenikker was looked upon as "a sort of magician who could make America invincible with a wave of his wand" (Vonnegut, 2008, p.30). Behind these two Felix's inventions, there was not any morality but the need to prove that the power was in America. Similarly, at the end of the book, Hazel – the woman who seemed to consider herself the mother of Hoosiers – felt the need to sew the United States flag even though she used the wrong colours, peach and green, and the stars she had cut out were "six-pointed stars of David rather than five-pointed American stars" (Vonnegut, 2008, p.199). Moreover, she wanted to place it in the top of the highest mountain of San Lorenzo. Hazel represents American imperialism and its necessity to leave its mark wherever it goes by.

Resuming to *ice-nine* as a closing comment on chaos, it is interesting the Bokonist term *wampeter*. John considers *ice-nine* as his *wampeter*. "*Wampeter* is the pivot of a *karass*. No *karass* is without a *wampeter*, Bokonon tells us, just as no wheel is without a hub" (Vonnegut, 2008, p.37). *Ice-nine* is not only the end of the world but the beginning of John's journey through the memories of the man who made the world end twice.

Whatever it is the *wampeter*, "the member of its *karass* revolve about it in the majestic chaos of a spiral of nebula. The orbits of the members of a *karass* about their common *wampeter* are spiritual orbits, naturally. It is souls and not bodies that revolve"(Vonnegut, 2008, p.37).

Busy, busy, busy.

5. CONCLUSIONS

Cat's Cradle could be understood as the embracement of the technological sublime as a way towards an uncertain future. Through the character of Felix, Vonnegut represents Nye's conception of technological sublime as a permanent disaffection and the idea of reason in permanent evolution. Frank's disaffection from what is not pure research is rendered by his mediocre tombstone, which contrasts with the huge, gothic, and sublime burial plot of his wife. Such behaviour has influenced his offspring dramatically, leading Angela to find a way of escapism in music. This connection between artistic creativity as way of escapism is also present in John's writing and Newt's interest in painting. Newt tends to draw chaotic paintings, which happen to be the representation of the infant's game cat's cradle. The fact that cat's cradle gives name to this novella may be justified by the importance of what it represents, the unpredictability, the order out of a chaotic bunch of X's, the continuum deconstruction and reconstruction of what it is supposed to be a reality, which relates to the postmodernist tradition. In Felix's hands, this game also evokes the idea of *butterfly effect*, as well as Frank's

Mason jar. Their chaotic games seem to echo the chaos happening at the same time in Hiroshima the day of the bombing.

Opposite to the atomic bomb, whose outcome was not unpredictable, the other Felix's creation, the *ice-nine* complies the purest concept of technological sublime and its unpredictability. What seemed to be an innocent invent becomes the principal pursuit of the two most powerful countries in the world, the United States and the Soviet Union, fighting for the power of destruction. This evidences the conception of science as a cultural condition, *ice-nine* becomes a destructive weapon under the culture of the fight of power. *Ice-nine*, as well as the atomic bomb, proves Nye's conception of technological sublime as a tool to create a national identity. Behind these two Felix's inventions, there was not any morality but the need to prove that the power was in America, just the same Hazel wants to prove by sewing the United States flag once the world is entirely frozen, and just the same she wants to prove with her obsession with the important role the Hoosiers play in society.

Cat's Cradle embodies the unpredictability of science and human behaviour working together, something that cannot be neglected nor avoidable. It is not only human irresponsibility what may lead technology, in this case *ice-nine*, to cause the end of the world, but also the unpredictability and randomness by which the world is ruled. This unpredictability and its relation with the idea of *metis* is embodied in Mona's relationship with John, combined with the natural sublime she represents.

This work is the result of the unavoidable relationship between Vonnegut's background on science and technology, his artistic impulse triggered by the important alterations the technology of warfare was provoking at the time, and how those events affected his own behaviour. This work leaves a sense of global connection, a sense of chaotic sublime.

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