Science without religion is lame, religion without science is blind, said Einstein who had a lifelong terror of losing the spirituality for the materiality. But science and religion without the arts would be deadly dull.

Catherine Lim, *Unhurried Thoughts at my Funeral*

That there is some kind of relationship between science and literature could be considered a truism among those scholars who are interested in the association between these two bodies of knowledge. The aim of this paper is to add to this relationship by briefly analyzing the interconnectedness between science and literature in the literary works of Singaporean writer Catherine Lim.

Although Catherine Lim was born in a little Malaysian village in 1942, she has developed her writing and professional career in Singapore, once forming part of Malaysia but now an independent city-state and international business center. She has written many short stories and novels about life in this little island, most of which revolve around the differences between East and West. In fact, her works abound in dichotomies of many types, the above mentioned is probably the most outstanding dyad but other pairs such as tradition versus modernity or women’s rights versus patriarchy can also be found in her writing. *Little Ironies. Stories of Singapore* (1978) can be considered a landmark in her literary career as it was the first collection of short stories in English to be published by a single author.
Catherine Lim is considered the doyenne of Singaporean literature and her books have been published in many different languages.

To describe Catherine Lim’s relationship to science one could begin by defining her as a woman with many interests including literature, the arts, religion, politics and science. Her many and various concerns, together with her enthusiasm when dealing with them, relate her to the prototype of the universal artist of the Renaissance. Such a comparison should not imply that an equation between Lim and Leonardo Da Vinci, for example, is intended but somehow, in a humbler way, Catherine Lim presents the characteristics that have been assigned to this prototype of universal artist. Catherine Lim is a universal woman in a certain sense. Although she has no special invention of her own, she certainly moves and shows interests in different fields of knowledge. She is a writer and loves literature; she also holds a PhD in applied linguistics and praises herself for being attracted by the sciences which she uses quite frequently in her artistic works. She considers herself a positive person in search of truth and justice to the extent of being censored in parliament by the political party which, without a break, has ruled Singapore since 1965. She disapproves of dogmatisms and places human values above any other kind of considerations. If stating that she is a Renaissance or universal woman could be pretentious, this description could undoubtedly place her under the heading “humanist”, in the sense of someone interested in all aspects related to humankind. This universality of her engagements makes it no surprise to find numerous references to the sciences in her work. However, this fact, which could be a characteristic of any artist with various interests, assumes in Catherine Lim a special meaning due to her double or hybrid identity as a postcolonial writer.

My point of departure is the consideration of science as a Western discourse, that is to say, as a way of knowing imposed on colonized peoples by the West. In this dimension, science has worked as a discursive formation stemming from the discourse of Orientalism, as described by Edward Said (1978). As it is well known,
Orientalism can be defined as a set of statements about the East put into circulation by the West in order to exert power and authority over its colonies. Although it reached its peak during the 19th century and the first half of the 20th century, this set of statements and preconceptions can be said to be still in circulation under the form of stereotypes or commonly held assumptions about the East. Homogenization, binary categories and repetition are the basic tools by which Orientalism operates. Homogenization implies reducing all Eastern or Western peoples to single and unified categories which can then be opposed to form binary categories. This implies defining one of the terms of this set, the East, in relation to the other, which becomes then the privileged term, the one against which the Other is measured and defined. Thus, the East, reduced to a monolithic and essentialized category, is described as the negative image of the West. Repetition transforms these sets of statements into stereotypes which through their sole reiteration by institutions with authority acquire the status of truth. Said derived his concept of Orientalism from Foucault’s notion of discourse in *The Archaeology of Knowledge* (1972).

Science, with its aura of objectivity, is considered here as forming part of the discourse of Orientalism. Being based on observation, measure and experimentation, science seems to have acquired a truth value that is not to be put into question. Its claims of objectivity place it outside the realm of subjective thinking, traditionally assigned to the humanities. Its asseverations are truths in themselves, science stands independently from the observer that applies its principles, it aims at objective truth and its conformity to reality is beyond discussion by other fields of knowledge. Scientific laws are by definition general and universally applicable. However, such a truth status on the part of science has come into question as the concept of reality has also been contested by philosophy and the social sciences. Thomas Kuhn’s (1970) notion of paradigm, advanced to explain the ways in which scientific shifts take place, worked as a first step in the
conception of science as constructed knowledge. Envisaging this field of study as a discourse is of special importance in the social sciences as it emphasizes neither the validity of scientific knowledge nor its suitability to explain reality but it allows for inquiries on its role as a bearer of cultural values. Conceiving of science as a discourse stresses its capacity to determine our way of perceiving reality. That is, if the power of science to establish truth cannot be rejected, the ways by which these truths are arrived at are, however, constructed. I embrace George Levine’s assertion that, “literature and science, whatever else they may be, are models of discourse” (“One Culture: Science and Literature” 3) and that science “works within the culture and responds to its exigencies” (Darwin and the Novelists 3). Consequently, it can be regarded as a product emanating from culture while simultaneously contributing to define it. In Robin Gilmour words, “the issues of science, the questions it asks and the way it chooses to answer them, cannot be separated from the assumptions of the culture at large” (142). But the purpose of this paper is not to uncover fissure lines in this body of knowledge. What I intend is to point at the role of science in the literary works of Catherine Lim and to illustrate how it has operated, to some extent, as an acculturating device, as a Western discourse, determining her understanding of “reality”, her culture and herself. Logically, her production as a literary writer is also influenced by the regulating activity of science as a discourse.

This paper will proceed according to the following lines. In the first place, taking science as a deeply embedded element in Catherine Lim’s works, I will illustrate how it has paradoxically operated as a liberating frame unfettering her from the constraints of tradition. This is science in its role as a truth generating device. In a second step, I will display some examples of the role of science as a source of metaphors by which any aspect of life can be interpreted and explained. The pervasiveness of science as a system to understand and grasp her universe will thus be exemplified. In the third place, I intend to correlate the role of science with Western thought and its influence on colonized peoples. The double influence of
native culture or tradition and modernity or the West, determine the generation of a certain type of schizophrenia in the colonized subject. Science in its discursive dimension has largely contributed to this process. Lastly and as a way of synthesis, Catherine Lim’s personal cosmology, which can be read as a sort of negotiation between the two cultures that constitute her heritage, will be advanced.

For Catherine Lim, science provides human beings with the power of reason above superstition. In her case, reason plays a very important role as it does away with those superstitious beliefs that held women in a position of subordination. For instance, in her short story “Of Moles and Buttocks” (1983), Lim describes how moles near the eyes of women were considered a sign of sorrow and tears whereas those near the mouth meant prosperity and food always at hand. Women with flat buttocks, on the other hand, were bad luck bearers while round fleshy buttocks denoted prosperity and a happy life. More superstitions said that a black cat at a funeral would raise the dead from their coffins and the ghosts of recently deceased people, especially if they had suffered in life, could provide the lucky lotto numbers to those who dared to perform the right ritual on their tombs. Against these beliefs, Catherine Lim yearned for a type of truth which were, “earned only through the hard work and research of science” but even empirical truths had to be revised if, “new evidence warrants it” (*Unhurried Thoughts* 72).

Native superstitious beliefs seem to have exerted the same type of fascination on the writer as on a foreign reader, but some of them, especially those dealing with women, acted in her life as constraining elements forcing her to accept her place in a patriarchal society. Science and rational thought, however, allowed the author to vanquish the superstitious fears under which she was brought up. Those beliefs were designed not to protect and satisfy one’s needs but, on the contrary, they were useful tools to impair the subject’s capacity to grow as a free individual. In *Unhurried Thoughts after my Funeral* (2005), Lim recalls a situation that definitely led her to abandon those ancient fears. As a child, she was told that ghosts lived in
the trunks of banana trees so that if they were slashed at night a scream would be heard:

I secretly put the belief to the test one dark and moonless night, but heard no scream. Later, I was told that the horrible wailing sounds I could hear from the lunatic asylum [...] were caused by the full moon. In a visit to the asylum with my mother [...] I realized that the cause of the agony of these poor women was not the moon, but the wretchedness of their lives. In adulthood, I became suspicious of supernatural phenomena presented as facts. (Unhurried Thoughts 72)

In her works, her characters can sometimes break free from these constraints, in other cases they fall victim to these superstitions but most of the times they show a combination of these trends working simultaneously, conferring them a schizophrenic personality. Thus, for instance, the modern, Western hugging and English speaking woman in the short story “Or Else the Lightning God” (1980) cannot stand her mother in law and forces her to move to some other relative’s house. The old lady, who did not like this disobedience and lack of respect to traditional values, curses the young woman. Notwithstanding all her modernity and self-sufficiency, she suffers a nervous breakdown after being sent the curse of the Lightning God. Ironically, she will only recover if her mother in law agrees to perform a forgiving ritual on her behalf. Angela, the protagonist of Lim’s first novel The Serpent’s Tooth (1982), is another example of cultural schizophrenia as she is also a very modern woman who, again, cannot free herself from ancient fears which reappear in her life as nightmares due to her lack of filial piety, one of the most treasured Chinese values. Although she ignores and even despises traditional ways of knowing, she cannot completely disregard her native culture. Thus, when problems in her marriage arise, she goes to a very expensive astrologer and if her business is not running well she turns to a geomancer in search of advice. The reliability of these characters is explained through their expensive fees and Western
looks. The geomancer, for instance, is described as someone, “you wouldn’t know he was a geomancer. We tend to think of these people as old and weird-looking. He is always impeccably dressed in suit and tie” (The Serpent’s 112). For Angela, there is no possibility of reconcilement between her two cultural legacies, as she superficially embraces modernity.

From what we have seen above, science works as a liberating and truth providing element in the works and life of the author but contact with this foreign way of explaining and understanding the world is also the source of contradictions and irrational fears in the mind of the characters. Being science such an important aspect in the life of the author, it is not surprising that it may permeate her works constituting a sort of metaphor providing device by means of which human beings and the world around them are explained.

A good example of this metaphor providing role can be found in her fourth novel, Following the Wrong God Home (2001). Ah Heng Cheh is an old Chinese born servant who is disoriented with the changes brought about by modernization in Singapore. Such disorientation is conveyed by means of her unsuccessful search of a place for her God, a statuette of an ancient Chinese deity. Yin Ling, the girl she once helped to raise, is now a young woman who worries about the welfare of the old lady and has come to take care of her. She studies literature at university and enjoys writing poetry as a means of expressing her inner feelings. She dedicates the following poem to the old servant:

Strange, lost god
A neither-here-nor-there god
Under the snub nose and child’s cheeks
Is there a Sky-God’s visage
Too terrible to behold?
Strange, lost god
Come off it, I say,
In this poem, the superstitious fears from which the protagonist has tried to break free are clearly portrayed through the reference to the menacing Chinese deity Sky-God, who is disturbingly linked to the innocent and affable statuette belonging to Ah Heng Cheh. However, I would like to highlight the reference to Heisenberg’s uncertainty principle, which is here utilized as a symbol of the dual or hybrid condition of the postcolonial subject. Thus, just as matter may be described as sharing the properties of a particle or a wave depending on the type of physics we apply, so the subject who has undergone colonization shares characteristics of the two cultures which comprise her heritage. Her Chinese ascendancy is on the side of tradition. It represents the culture of her parents and grandparents. It constitutes an intimate aspect of her personality that contains many loved things: childhood memories, festivities, customs, family meetings, dresses, foods. These loved aspects coexist with others not equally loved such as the already mentioned superstitions. On the other side of the same coin stands the author’s British education at a Catholic school. There she was taught English literature, history and science. Thus, British culture came to be associated with scientific thought and reason. However, these same Catholic nuns that taught her the principles of science imbued her with other superstitions such as the fear of God or the punishments in Hell:
The escape from the strictures of cultural conservatism into Western enlightenment through an English education proved to be no escape but the embrace of a different set of strictures. The years as a Catholic under the tutelage of devout convent school nuns could be alarming for a young teenaged girl who was continually reminded [...] of the awful punishments in hell awaiting those who committed mortal sin. (*Unhurried Thoughts* 70)

Going back to this idea of science as a metaphor providing device, Catherine Lim uses images related to the different bodies of science. Thus, physics also come into play when the author tries to explain her restlessness:

The stern Confucian voice followed me relentlessly throughout my life. I grew restless with the need to escape the voice, justifying my recalcitrance with the reminder that my condition was merely exemplifying a basic law of Physics that describes the fundamental restlessness of matter thus: ‘The more a particle is confined, the faster it will move around.’ (*Meet me on the Queen Elizabeth 2!* 8)

When she wants to state that middle aged women travelling on a cruise still have some opportunity for romance, she uses Einstein’s relativity theory, “I told friends that on the QE2, I saw a special application of Einstein’s Law of Relativity which was totally agreeable to me: in her fifties or sixties, a woman was relatively young among septu-, octo- and nonagenarians” (*Unhurried Thoughts* 59). To explain why the protagonist in the short story “The Paper Women” (1993) has failed in her role as wife the author turns to Medicine and Biology:

I wished though, that other problems in our marriage could have been just as easily solved. Consider: Husband gets angry because Wife is showing too much interest in her career. *Wife* goes for operation to remove ‘Career Gland’. Husband complains Wife does not love him, *Wife* goes for operation to put in ‘Love Husband’ gland. (*The Woman’s Book of Superlatives* 20)
Science in Lim’s work is not merely a conversation topic but something that oozes her work as she depends on it to explain and understand her world. Lim’s double identity is constantly present in her works and can be traced both through the contradictions her characters undergo and through the author’s own memories and statements about her education. This confluence of two cultures that mutually exclude each other gives way, as we have seen, to guilty feelings in her female characters. In her works, she puts these cultures under the microscope to test their validity. For instance, the girl child Mei Kwei in *The Teardrop Story Woman* (1998) grows up as a Chinese girl while simultaneously receives a Catholic education. Confused as to the deity she can trust, the Virgin Mary or Kuan Yin, the Chinese Goddess of Mercy, she decides to put the two of them to proof. Having lost a small amount of money in her way to school, she prays to both deities, first to Virgin Mary and then to Kuan Yin. It is this second deity that works the miracle and Mei Kwei finds the lost money. This is a common feature in Lim’s writing: her characters usually show respect for traditional beliefs while they fall victim to them.

One could say that this is one more example of superstition put to work, however, the method used by the girl to decide which deity to believe in presents some hints of the scientific method, that is, the option chosen by the girl is determined by “palpable” and “measurable” experience. Being it an example of superstition or not, what can be stated with some certainty is the close relationship between science and the world of the colonizer in Lim’s works.

Throughout this paper, I have emphasized the relationship between science and the West together with the difficulties brought about by the coexistence of traditional and Western values in the author. Now I will try to give some reasons leading to the consideration of science as a Western discourse.

In his study of British colonization in India, Partha Chatterjee states that, in order to protect indigenous identity, Indian nationalism conceived of culture as separated in two spheres: the material and the spiritual (1993 6). Western
superiority in the material sphere was unquestionable as was Indian superiority in
the spiritual one. If India wanted to overcome colonialism it should embrace
Western knowledge in the field of technology and science while it was also a
priority to protect India’s identity in its spiritual dimension. Consequently and due
to their relationship with the home and their role as culture bearers, women were
denied access to the values represented by the West. The division of culture into
two separated spheres implied the coexistence of two separate value systems
under one single culture. This dichotomy has been analyzed by R. Radhakrishnan
(1992) as an example of schizophrenia on the part of the colonized that had women
as its main victims, “Unfortunately, in authorizing such a schizophrenic vision of
itself, nationalism loses on both fronts: its external history remains hostage to the
Enlightenment identity of the West while its inner self is effectively written off out
of history […] And Woman takes on the name of a vast inner silence” (84). This
vision of culture leads the colonial subject to an unbearable split which is also
traceable in the work of Catherine Lim. The question is then to what extent the
subject can adopt such a powerful weapon to build knowledge without
undermining their own native capacity to understand and perceive the world, that
is, without undermining the subject’s own Weltanschauung.

Throughout this paper I have dealt with science as a discourse and I have
opposed it against tradition or native knowledge to illustrate how it has determined
Lim’s perception and understanding of her world as it is displayed in her writing. In
so doing, however, the same pattern that can be identified in Orientalism has been
applied. Firstly, all scientific knowledge has been subsumed under the category
“Western” while native knowledge has been reduced to superstitions. That is, in my
dealings with these forms to know and perceive the world I have contributed to the
consolidation of science as a Western discourse. I have homogenized, then opposed
and transformed into a binary category these two ways of perceiving the world.
Hence, answering the question previously posed becomes a difficult task as the
researcher is also immersed in discourse. A usual resource in the humanities consists of trying to blur binary categories by emphasizing the borders or the spaces in between. For instance, not all scientific knowledge is impartial or even “Western” as not all native knowledge can be reduced to “superstitions” suffering from a lack of empiricism. An example of an attempt at reconciling this dichotomy between native and scientific knowledge can be found in Glen Aikenhead and Masakata Ogawa’s investigation on science education to native communities (2007). In this study, they try to soften this division by postulating a third way of knowing that would share from both scientific and native experience.

With regards to the assumption of science as an acculturating discourse, some other reflections are needed. Firstly, this conception could be controversial, especially for scientists, as it could bring some doubt to the truth value of scientific general laws. However, as it has already been highlighted, this notion opens the way for a study of science that may bypass, so to say, its “scientific” dimension, and that would emphasize its role as an expression of the culture from which it derives. That is, the validity of scientific laws is not challenged but the ways they are arrived at. In the second place, considering science as intimately related to the West and acting as an acculturating device may be questionable nowadays after all technological advances achieved by Asian countries. However, this statement could not be that dubious in the middle part of the 20th century and before, as Lim’s work attest.

I now turn to illustrate how Catherine Lim has solved the question posed in this paper. As we have already seen, contact with science and Western culture has had an important influence in the work and life of the author to the extent that it has led her to the creation of a personal and individual cosmology. At the grounds of this personal cosmology would be science in its aseptic and impartial truth generating dimension. In Lim’s words, “Over the years, my search for self-fulfillment shaped into a tripartite quest for Truth, Goodness and Joy. I wanted the truth of
knowledge, of the objective reality out there not the truth as dished out by tradition or conventional thinking” (Unhurried Thoughts 72). But being science avowedly amoral it could not satisfy her need for goodness so she then turned to religion, a personal religion of her own that could be summarized in the following way, “Don’t do unto others what you don’t want others to do unto you” (Unhurried Thoughts 72). Finally, there was a third aspect that she also needed in her personal cosmology and it was joy, the joy of the arts, literature, painting and dance. Joy implies freedom and spontaneity in the mind of the author and conveys this ironic and humorous edge that characterizes her works. By means of this personal cosmology, Catherine Lim has tried to find a personal space where to reconcile the various forces that constitute her hybrid identity. She seems to have reduced science to the sphere of attestable and measurable truth resorting to a personal cosmology as a means of assuaging, of finding a place for her multiple cultural influences.

As a way of conclusion, science constitutes an essential aspect in the life and work of Singaporean author Catherine Lim. It has provided the author with the truth needed to overcome traditional superstitions and beliefs that worked as constraints in her life. The importance of this aspect in the works of the author is attested by the many references to scientific laws and principles put to use as metaphors to explain life.

In the mind of the author, and also in the minds of many countries with a history of colonization, science has come to be associated with the West. Being science a vehicle for technological advancement and progress, these countries have embraced Western science while they simultaneously have intended to protect more inner aspects of their culture. This division has led to a schizophrenic split which, in Lim’s works, can show up as guilty feelings or irrational fears. Notwithstanding, science and the search for verifiable truth, together with her love of the arts and sense of humor, has helped the author to overcome these same irrational fears. The cultural division brought about by the contact with different
aspects of a foreign culture seems to have been negotiated by the adoption of a tripartite cosmology where science and amoral truth would be on its base, followed by goodness or religion and joy or the arts.

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