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摘 要

這篇文章的寫作動機是來自於作者對於當前台灣海洋教育政策的疑惑與反思,文中作者首先描述台灣的海洋教育政策內涵,並發現在海洋教育政策文本的政治與經濟修辭中,隱含著某些特定的真理。本文的思想基底是藉由法國哲學家傅柯對於他的老師剛居朗的「差錯哲學」的詮釋,以探討海洋教育的意涵,作者於文中引用海明威的作品《老人與海》為例,說明人與海洋之間的動態關係是經由「差錯」才能顯示出其意義,所以學生與海洋互動後所產生的多元經驗是在不可預見的「差錯」中展現,不應受到預先設定的真理所治理,也不適合受限於海洋教育的特定概念之中,作者於是提出,若以船的航行來比喻,海洋教育或許可以有更多樣的動線,而非只限於固定的航行軌道可以行走。

關鍵詞:海洋教育、傅柯、剛居朗、差錯哲學、老人與海

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Introduction

In this paper I am motivated by unease at a current tendency towards marine education in Taiwan. Marine education has become prevalent in this island within this decade. This is apparent in recent government policy. Several official documents have highlighted the importance of the sea for Taiwan. They all stress the fact that Taiwan is an island geographically surrounded by sea. The White Paper on Ocean Management (Executive Yuan, 2001) was the first official document with regard to marine policy, in which Taiwan was declared as an oceanic country. It indicated that Taiwan should extend its development in different spheres towards the ocean – a not-yet explored blue territory. After this launch, the government issued National Marine Policy Guideline in 2004 in order to insist on the policy of establishing Taiwan as an oceanic country. This supported actions such as maintaining ocean ecology, protecting ocean resources, cultivating marine consciousness and marine culture. Furthermore, the White Paper on Marine Policy, issued in 2006, revealed a consistent marine policy (Executive Yuan, 2006). According to this document, Taiwan is going to set up a special bureau in charge of marine affairs, so as to ensure development of sustainable marine policy.

Based on the background above, education has also become an area where marine policy can be carried out. To define concrete goals and strategies for marine education policy, the Ministry of Education drew up a *White Paper on Marine Education Policy*. The White Paper aims, in its emphasis, "to strengthen and establish the marine knowledge of students at all levels in order to cultivate a range of high-caliber professionals as required by various industries" (Ministry of Education, 2007). This White Paper is crucial for guiding implementation of marine education. For achieving its aims, the Ministry of Education has drafted a *Marine Education Implementation Plan* (Ministry of Education, 2008a) to illustrate detailed practices. The objects of concern are not only professional marine education, but also general marine education on a compulsory education level. In 2008, marine education has been lined up as the seventh pivotal theme in the latest version of *Grade 1-9 Curriculum Guideline* (Ministry of Education, 2008b), along with environmental education, gender education, human rights education, career development education, information education and home economics education. Following this, new competence indicators concerning marine education have been developed. All this is being prepared for use in new textbooks at

primary and secondary education level in 2011.

This paper begins by describing recent marine education policy. I analyze the main idea in this policy by means of official documents. I find that there is presupposition taken for granted in their political and economic rhetoric. This policy is confined to the necessity of national development and national identity. This, however, runs the risk of narrowing the wide canvas of marine education. Foucault (1998b) employed Georges Canguilhem's idea on history of science in his work, and adopted the position of a *philosophy of error* to examine human history and human thought. Drawing on this, I will argue that, the concept of *error* offers an appropriate understanding of looking at human experience of the ocean in the practices of marine education. My argument is revealed in two stages: first, I take Ernest Hemingway's work – *The Old Man and the Sea* (Hemingway, 1995) as an example. I support the idea that the significance of the dynamic interrelationships between human living and the sea is disclosed in the perspective of *errors. The Old Man and the Sea* reveals that there is no correct route or causal relation in the interaction between human living and the sea. On the contrary, there are trial and error experiments constituted for moving to and fro' between external knowledge of environment and internal knowledge of self, as the old fisherman did.

Second, students' multiple experiences of the sea, based on errors, are not able to be governed by the sovereignty of truth, nor in a confined concept and fixed experience of marine education. I then suggest an open marine education to deal with this need for flexibility. Instead of "correct" cognition on ocean, students' experimental interactions with the sea are constituted by trial and error practices, in which their knowledge towards outer environment and inner self is continuously replaced and renewed. Marine education is not a domain which can be confined to the political and economic objectives that are framed for improving national development and political identity. This does not do justice to the significance of marine education at a general level (nor, possibly, at a professional level)¹. It is also misleading about the relations between human beings and the ocean, and between students' experience and marine education. Following a philosophy of error, I consider that

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¹ According to Jing-Guo Wu (2009), marine education can be classified into two fronts. One is marine professional education, which is what we call "maritime education"; the other is marine general education. In this paper, my discussion mainly focuses on marine general education. Its teaching objects are located in grade 1-9, the compulsory education level. These ideas may also apply to the consideration of maritime education, to think of relations between human beings and the ocean.

marine education is multiple and mobile in nature.

Marine education as a vehicle of national development

When we examine marine education policy, it can be seen that it is triggered by certain fundamental ideas, one of which is the requirement of national development. Take the *White Paper on Marine Education Policy* for example; it is drafted to tackle the problem of 'the persistently insufficient oceanic knowledge of our citizens and complaints from the industry regarding shortages of qualified marine professionals' (Ministry of Education, 2007). There are five objectives in this document:

...the establishment of a platform to promote marine education; development of students' basic knowledge of oceans; encouragement of students and parents to favour marine education and career opportunities; improvement of entry-level professionals in the marine industry and improvement of the quality of high-level professionals for the marine industry. (Ministry of Education, 2007)

As we see, the aim of this policy is, by means of education, to create more opportunities for all citizens to gain more knowledge about the sea in order to promote the development of a *marine society* (Ministry of Education, 2007). In this marine society, each person will recognize the importance of environmental protection of our ocean. He (or she) can make proper use of the sea, care for the sea, and take an international perspective to look at marine issues. The promotion of marine technology is another concern in this policy. Marine education, it is said, should offer students a prospect for pursing a marine career, or marine studies. This is to enhance the abilities of marine professionals, to meet industry's requirements, and to ensure the competitiveness of marine industry.

The reason why Taiwan claims itself as an *oceanic country* is based on a competitive global situation. Taiwanese people in this context extend development in diverse fields towards the ocean and create more opportunities for its *Blue Territory*, as that is referred to in *White Paper on Marine Education Policy* (Ministry of Education, 2007). In the description of this text, in 1984, the United Nations enacted the United Nations Convention on the Law of the Sea (UNCLOS). It made recommendations on the management and sustainability of

marine environments. It also outlined regulations limiting exploitation of resources in the marine industry. Following UNCLOS, several advanced countries such as the United States, Australia, Japan and the European Union adopted schemes of marine policy and published white papers for promoting marine development in economics, politics and culture. Considering national prosperity and international responsibility, our government cannot help but follow the example of those advanced countries. This action is the so-called *Blue Revolution* (Ministry of Education, 2007). It is concerned mainly with the issues of marine technology and marine industry for enhancing both national development and global competitive competence. In this revolution, as the claim is made by a scholar, Taiwan should "construct a global perspective based on the ocean and construct an international perspective based on Taiwan" (Tasi, 2007). Marine education is the means towards political policy and economic consideration in our national interest in a "global village".

Marine education serves to enhance national identity

Another motivation for pursuing marine education is the emphasis on national identity. This can be seen in the claim of Marine Education Implementation Plan (Ministry of Education, 2008a), in which the rationale of marine education is to achieve the ideal that "Taiwan would like to establish its national position by means of ocean". For a long time, there has been political conflict between Taiwan and China. Because of historical background and national security, mainland China has attracted more attention than Taiwan itself in education. Our government could not look at Taiwan without taking China into account. In the White Paper on Marine Education Policy, continental culture is seen as representing traditional Chinese culture, which concerns more the management inside continent than the expansion towards unknown terrain – the ocean; oceanic culture however is related to the development of Taiwan island itself. Marine education is designed to guide students into gaining more understanding of the sea, and of the island of Taiwan. This is done for the sake of avoiding the bias of a continental perspective. By emphasis on understanding of Taiwan itself, the important relation, between ocean and continent for Taiwanese, as the author of the text wishes, can be balanced. In this way, marine education is a mechanism for maintaining national identity. To cherish the ocean goes with valuing our national territory. To love the ocean is part of a practical way of loving country. Hence, in the

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basic ideal of *Marine Education Implementation Plan* (Ministry of Education 2008a), schools need to construct the educational context to help students to know the ocean, to approach the ocean, and to love the ocean at the compulsory education level. This is the way in which an "oceanic disposition" of citizens can be constituted. Clearly, marine education reveals an essential element in national identity.

Errors in the concept in life

In this part, I shall elucidate Foucault's interpretation on George Canguihem's idea of the "philosophy of error" so as to apply this idea to think of the significance of marine education. In Foucault's essay *Life: Experience and Science* (Foucault, 1998b), he discusses George Canguihem's concept of the history of the sciences. He investigates the idea of the *concept in life* in terms of Canguihem's account of historico-epistemology. This concept is related to the modes of knowledge which living beings take from their environment and by which, living beings structure their environment. Foucault explains the way knowledge (or the concept) is exercised in human life:

The fact that man lives in a conceptually structured environment does not prove that he has turned away from life, or that a historical drama has separated him from it - just that he lives in a certain way, that he has a relationship with his environment such that he has no set point of view toward it, that he is mobile on an undefined or a rather broadly defined territory, that he has to move around in order to gather information, that he has to move things relative to one another in order to make them useful. Forming concepts is a way of living and not a way of killing life; it is a way to live in a relative mobility and not a way to immobilize life.... (Foucault, 1998b)

In this description, instead of a static position, a man has a mobile relationship and a mobile understanding with his environment. His way of knowing, of interpreting this environment is flexible, constantly changing to cope with various situations. There is a dynamic interaction. Once a man changes his knowledge owing to environment, his new formed knowledge comes back to affect this environment or even change it. From a

historical perspective, this mobility of knowing made the development of evolution of living human beings possible. Human experience and human thought is revised over and over again through the dynamic interaction with material conditions. Furthermore, by virtue of faulty experiments, a dead end could turn out to point to a way forward and out, in which the turning point of transformation or mutation occurs for being. Human conceiving in this sense is an impetus to promote living, rather than an impasse to envelop or enclose it. Drawing on Canguilhem's philosophy of error, Foucault sees that life "is capable of error". He states,

The opposition of the true and the false, the values that are attributed to the one and the other, the power effects that different societies and different institutions link to that division – all this may be nothing but the most belated response to that possibility of error inherent in life. If the history of the sciences is discontinuous – that is, if it can be analyzed only as a series of "corrections," as a new distribution that never sets free, finally and forever, the terminal moment of truth – the reason, again, is that "error" constitutes not a neglect or a delay of the promised fulfillment but the dimension peculiar to the life of human beings and indispensable to the duration of the species. (Foucault, 1998b)

Foucault denies that life is led by true/false distinctions or particular values, which, at most, are merely temporary phenomena in historical progress. There is no rule for living better or correctly. Human thought and human life do not follow the "right" track which the concept of truth pre-supposes. They work, not with true/false judgments in an "Either/Or" logic, but with countless experiments in evolution along with errors. Foucault explains that *error* in Canguilhem's account, "is the permanent contingency around which the history of life and the development of human beings are coiled" (Foucault, 1998b). This "error" does not mean something we get "wrong" in life, nor is it that human life is incapable of reaching certain purposes. Instead, it means that it is no longer "an external fatality that has to be reduced, but, rather, an operational concept to be utilized" (Foucault, 1998c). The concept of error is a useful element in history; it paves the way to human development and improvement, learning by mistakes. Though errors have consequences we neither wanted nor intended, they create opportunities to change an action, value, belief, purpose or attitude.

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Once men get the proper way of breaking through current problems by errors, through this rupture, a new stage of thinking and acting begins. Life is modifiable and mobile in this way. It, like time, never stands still. History is constituted by continuous evolution and change. The replacement is not absolute as a traditional historian may believes but contingent on circumstances.

In Foucault's view, absolute truths or concepts endanger human living. They denies the process of modification between human subject and environment, and impose a version of what our present should be with an arbitrary conclusion. Life cannot be corrected by truth or a dominant version of rationality. This implies only a singular mode of life and undermines the multifarious potential for living. The concept of life, according to Olssen's comment, "potentially helps resolve the impasse associated with normativity in Foucault" (Olssen, 2009). For Foucault, the diversity of living is rooted in *errors*. This idea can be shown in the discourses of mental illness, delinquency, or sexuality. These discourses have been involved in particular games of truth, but these games are not imposed on subject under structural determination or necessary causality. Instead, Foucault states:

They (these games) open up a field of experience in which the subject and the object are both constituted only under certain simultaneous conditions, but in which they are constantly modified in relation to each other, and so they modify this field of experience itself. (Foucault, 1998a)

Errors occur in the continual modification between subject and object, in which different experience is produced and modified. Foucault's disagreement with fixed truth is based on the idea that experience is openly, continuously created between human beings and the environment they live in. This modifiable experience, however, should not be narrowly confined in one decisive structure or a linear mode of causality. Life experience reaches its richness without ever arriving at totalization or an end. As Faubion puts it, following Canguilhem, "Foucault is not a pragmatist but a fallibilist, or better, a philosopher of fallibility" (Faubion, 1998). This is because the history of thought in Foucault's view is open-ended with multiple visions and revisions.

Foucault's interpretation of Canguilhem's concept helps us to conceive the concept of

living and of the living experience in a profound way. It also raises questions with regard to *truth*, *subject* and *knowledge*. In fact, his idea shows less concern on issues of science than on the aspect of ethics and politics. In the light of it, I shall illustrate the totalizing concept – the *truth* implied in marine education policy.

The truth in marine education policy

As I have shown above, marine education policy is an echo of concerns for national development and political identity. It is implemented in the service of an existing mode of national policy. There is a pre-supposed oceanic consciousness² intended to be installed in students' minds through marine education. This "oceanic consciousness" connects with patriotic consciousness, environmental protection, and economic development. In the light of aims of marine education policy above, curriculum and instruction in marine education may be interpreted as a way of enhancing national identity and of improving economic development. As is said in White Paper on Marine Education Policy, "effort should be made to establish proper values and sufficient understanding of oceans among students and parents alike." (Ministry of Education, 2007). Here, national identity and economic development are proper values that marine education would promote. These values are also the truth, the fashionable rationality or, we could say: the "right" way to effect marine education. This "rightness" runs the risk of reducing marine education to serving particular, narrow purposes. It offers nothing more than a monotonous mode of running marine education. It also produces a particular form of what marine education should be, in which human living with the ocean is fixed in a single structure. Driven by local educational authorities, many primary and secondary schools are currently putting marine education into practice in their curriculum. Many teachers are instructed to include issues of ocean in their curriculum design in order to comply with national policy, especially in schools where nearby the sea. In arts classrooms, students learn to draw the sea. In physical class, they learn the skills of swimming. In social studies class, teachers show the importance of ocean for Taiwan from historical and geographical perspectives. In Chinese class, literature with relation to ocean is

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² In The pivotal theme of Grade 1-9 Curriculum Guideline: Marine education, it refers to that the curriculum aims of marine education should reach the purposes of cultivating students' oceanic consciousness (Ministry of Education, 2008c).

selected as teaching material. Suddenly, the ocean has become a norm for teaching. No matter what teachers teach, it is never wrong to teach something associated with the sea.

From the Foucauldian perspective, bio-power is exercised in the truth of marine education policy. Foucault introduces his concept of bio-power in The History of Sexuality Vol. 1 (Foucault, 1990). The notion of bio-power is different from our current idea of power. Foucault analyzes the development of the idea of power as follows. For a long time, people see the perspective of power as being invested in sovereigns who have the right to decide life and death, which is, to take life or let live with power of the sword (Foucault, 1990). Power in this respect is the privilege of seizure, and of suppressing life, of power over others. Since the classical age, mechanisms of power in Western society have been transformed. Rather than destroying, suppressing, and impeding, power has been generated by virtue of incitement, reinforcement and control. Sovereign power has been transformed into a productive mode of power to ensure one's life, or even the existence of everyone. For instance, massacres have occurred in the name of survival. This means that "power is situated and exercised at the level of life, the species, the race, and the large-scale phenomena of population" (Foucault, 1990). For Foucault, the era of bio-power starts from its effect that has been imposed on two poles (Foucault, 1990): one is the subjugation of bodies, which inserts human bodies into the machinery of production. Several cases can be seen in Discipline and Punish (Foucault, 1991); the other is the control of population, in which human bodies are fitted into economic processes. Both of these are relevant to the development of capitalism. In this way, human subjects get engaged in the structure of power relations, knowledge and the domain of political techniques.

This idea of *bio-power*, as the concept of *errors*, relates to Foucault's thinking on how human beings lead their life in a biological environment. In the exercise of bio-power, human bodies are distributed according to particular values and utility for the collective. Human subjects become obedient to the *norm*. Life heads towards a deadlock in *normalization*³. As mentioned above, marine education policy presumes a norm of students' learning in relation to the ocean. In this norm, population is subordinated to the process of

³ *Normalization* is one of disciplinary techniques. It is the way of standardizing the behaviour of individuals. It functions to reduce gaps, to impose homogeneity, and to fix specialties (Foucault, 1991).

production through political operations and through economic interventions. Students are embedded into their effects on economic utility and national survival. It implies the "right" way of marine education. It also excludes the diversity in abundant processes which students experience in their learning with the sea, and in their living with the sea. This policy not only narrows the significance of marine education, driven by *bio-power*, but it is also foreign to the nature of the relations between ocean and human subjects.

The Old Man and the Sea

One of the problems of marine education policy is that it lays stress on particular values of the ocean, such as economic and political utility, and disregards the mobile nature of marine education. This policy assumes the image that the ocean is always beautiful, easily accessible, and with less danger in order to attract students to approach the sea, or even to love it. This supposition, however, does not do full justice to the nature of the sea. It also fails to inspire students' multiple knowledge with regard to sea. Ocean in fact is a domain of being unpredictable, uncertainty and open. *The Old Man and the Sea*, written by an American novelist – Ernest Hemingway, suggests a more insightful perspective on marine education.

The Old Man and the Sea is a story that depicts an old fisherman's lonely struggle to catch a giant marlin. The name of this fisherman is Santiago. After having gone eighty-four days without taking any fish, he went out in a boat and put out his fishing lines to try his "luck". This time he encountered a "formidable giant" that was very hard to deal with. The size of this marlin he hooked was two feet longer than his skiff. Though it could destroy both himself and the boat, Santiago never gave up struggling with this giant fish. During the long fight with this marlin, his hands were bleeding and cramped, his body was exhausted and sleepy, and his head was faint. For persisting in this tough fight, he employed many different strategies to cope with his opponent, and to transform his thinking to gain more confidence in facing this difficult situation. After ceaseless struggle, Santiago finally killed the marlin. However, the trail of blood the slain marlin left attracts sharks to approach Santiago's skiff. Though he killed some of them, he could not prevent ravenous sharks from devouring the marlin's meat in the dark, at night. By the time he returned to the harbor exhausted, only the skeleton of the marlin was left.

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What does this story tell us? Even though this fisherman did not bring any flesh back any economic utility - he did powerfully confront each event which took place around him. In Hemingway's description of this character: "Everything about him was old except his eyes and they were the same color as the sea and were cheerful and undefeated" (Hemingway, 1995). While Santiago lacks outer, material success, he possesses the inner, spiritual success in the process of his ordeal. Just like his claim: "A man can be destroyed but not defeated." (Hemingway, 1995). Here, Hemingway connects Santiago's indefatigable spirit with the sea's boundless strength. The image of the sea in this novella is kind and beautiful. The sea is the friend of Santiago and offers him food. But it can also be cruel. It is full of danger and contention in nature. In facing the environment of caprice, as Santiago shows, a human subject is powerful in struggle with and, on the other hand in harmony with the boundless strength of the sea. There is no correct route or expected consequence in the interaction between human living and the sea. Even Santiago was a skilled fisherman, there was always something new and unpredictable for him to act tentatively while facing the sea. The sea, symbolizing both beauty and danger, kindness and cruelty, was a place where Santiago learned how to transgress both reality and himself. Each encounter with the sea changed his knowledge of it, and also the knowledge of himself. Through launching into this unknown frontier, he explored both the environment of the sea and the inner domain of himself.

This process is mobile and modifiable, as Foucault says. It moves across fixed knowledge and inert self with *errors* in experiments. If we use the truth of material victory to examine the ending of *The Old Man and the Sea*, this is quite a miserable story of failure. If we, however, see the whole process within it, there are immanent forces shown in *errors*, in overcoming the material exhaustion, in defeating the limits of environment, and in getting beyond self. Life and experience are hence transformed. This is another significance of *bio-power* that we can take – a power for transformation, a power of not being governed, either by external environment or by inner self. Bio-power is not only constituted for co-existence with living conditions, that is, for survival; but is also the practices for human subjects to strive to break through current limitations, as in the attitude that Santiago takes towards the sea. The ocean in this respect is not a place to confine human living. Instead, it is a matrix where potentials and power for living emerge.

Errors in marine education

How can The Old Man and the Sea help us to reconsider marine education? The ocean never closes itself up. Our concept of it should not shut it up. The nature of the sea contains more than the representation of economic utility or national identity. According to Foucault's idea of errors, the concept of marine education can be constituted as mobilizing life, instead of immobilizing it. The value of marine education is not shown in a certain, fixed structure or rationality, as that is obviously seen in current marine education policy, illustrated above. Rather than knowing the ocean under dominant truth, students constitute their knowledge through an on-going approach to the sea - an ever unfamiliar world. Each contact with the sea is a tentative exercise. There may be frustration and discouragement. However, by means of these experimental interactions, students move on and away, both from where they think of the ocean, and from where they are themselves. Each revising movement goes towards a new vision that they have never seen, and towards a new scope of what, or who they have never been. Instead of being given a ruling guide and being told where the termination or "end" is, the crucial element in marine education is to promote and extend students' power (or bio-power). This inspires them to create dynamic interactions with the sea, and continuously undertake searching with it. Errors are necessary aspects of learning. There is no guarantee that every experience will be good in this learning process. The value of marine education, however, can be applied in this quest for new "becoming".

Concluding remarks

The space of the sea is vast; its terrain has never been marked out. By this nature, practices of marine education could open up greater space – freedom – for teaching and learning. It can also open doors for students' self-transformation. Instead of being confined to the norm, marine education can freely navigate as if on, and by, the sea, both physically and metaphorically. This means that our concept of marine education can be seen as continuously changing and transforming. While I propose the movement of marine education could freely navigate, this does not mean that marine education would be drifting, without steering – without any course to run. What I emphasize is that marine education is by no means a shelter for the sovereignty of truth. It should be released from the restrictions which the aims of national development impose on it. This is for the sake of coming back to the

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dynamic interrelationship between human beings and the sea, the mobile status of human living, and also to the multiple nature of marine education. Only when we set the perspectives of marine education free, can students' experience of the sea evolve in continuous, trial and error renewal. Human living with the sea or human knowledge of the sea is modified by *errors*, as manifested in Foucault's view and in *The Old man and the Sea*. Individual's bio-power could be inspired by means of human's encounter with the ocean, no matter in the experience of harmonious coexistence or in the adventure of conflictive struggle. In this paper, I raise a different interpretation of the idea of bio-power. That is, the exercise of bi-power not merely serves to maintain racial existence or national prosperity, as with our general understanding with this concept. Bio-power can be a living power, to cross over outer limits and also to transgress inner self. Its strength may be increased by practices in life, and by modification with *errors* in changeable living environment. The ocean could be one of practicing fields for enhancing students' bio-power, by learning and teaching in marine education. This is another significance of marine education that we can take.

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文稿收件: 2012 年 08 月 14 日

文稿修改: 2012年09月28日

接受刊登: 2013年01月25日

Thinking Marine Education from the Foucauldian Perspective

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Abstract

This paper is motivated by unease at a current tendency towards marine education. I find that there is truth revealed by political and economic rhetoric in the policy of marine education. Drawing on Michel Foucault's interpretation of Georges Canguilhem's idea of the philosophy of error, first, I take Ernest Hemingway's work –The Old Man and the Sea as an example. I argue that the significance of the dynamic interrelationships between human living and the sea is disclosed in errors. Second, students' multiple experience of the sea, based on errors, should not be governed in the sovereignty of truth, nor in a restricted concept of marine education. I then suggest that marine education could be freely run and not merely be confined to a fixed course of navigation.

Keywords: Canguilhem, Foucault, Marine Education, Philosophy of Error, The Old Man and the Sea

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