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EDITOR'S NOTE

"Expressing Nursing as Caring through Music", this issue's lead article by Rozzano C. Locsin, sums up the framework on which the Silliman Journal balances its investigative discussions in the humanities and sciences. The next two articles - "Nutrient Water Quality of Banica River in Dumaguete City, Philippines" by Chester Dumancas et al and "On the Occurrence of Bullations in the Seagrass, *Halophila Ovalis* (R. Brown) Hooker F. from Bais Bay, Central Philippines" by Ernani Meñez and Hilconida Calumpong - reiterate the journal's posture in the pure sciences.

Shifting back the journal's focus to the humanities, Dale Law's "Why Jane Austen" sets the tone for self-reflection that is capped by this issue's final article, "A Choice of Creation" excerpted from Perla Tayko's address at Silliman University's 38th Honors Day Convocation.

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Issue Editor

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Notice to Authors

The **Silliman Journal** welcomes contributions in all fields from both Philippine and foreign scholars, but papers should normally have some relevance to the Philippines, Asia or the Pacific. All submissions are refereed.

Articles should be products of research taken in its broadest sense; a scientific paper should make an original contribution to its field. Authors are advised to keep in mind that **SJ** aims at a general, international audience, and to structure their papers accordingly.

SJ also welcomes the submission of "Notes" which generally are briefer and more tentative than full-length articles. Reports on work in progress, queries, updates, reports of impressions rather than of research, responses to the work of others, and even reminiscences are appropriate here. Book reviews and review articles are also considered for publication.

Manuscripts should conform to the conventions of format and style exemplified in Volume 37, number 1 of the **SJ**. Whenever possible, citations should appear in the body of the paper, holding footnotes to a minimum. Pictures are reproduced only when absolutely necessary. Scientific papers should be accompanied by an abstract. All authors must submit their manuscripts in duplicate, typewritten double-spaced on good quality paper.

The Editorial Board acknowledges all submissions, considers them promptly, and notifies authors of its decision as soon as possible. Each author of an article is entitled to twenty-five offprints. More may be had by arrangement with the editor before the issue goes to press.

EXPRESSING NURSING AS CARING THROUGH MUSIC

Rozzano C. Locsin

ABSTRACT. Music illuminates the profession of nursing which is the lived experience shared between the nurse and the person being nursed. To describe this, two creative and imaginative applications of music are illustrated: as an embodiment and as a complement to the nursing situation. Music both as an artform and as a therapeutic medium is described and illustrated to contrast ways of expressing the experience of caring in nursing.

INTRODUCTION

Nursing as a discipline and profession constantly searches for creative and innovative ways to illuminate the experience of nursing. In this paper, music is explored and explained as one of those ways. Although nursing literature is replete with records of various ways of expressing nursing, particularly about caring in nursing (Gaut, 1984; Watson, 1985; Roach, 1987), the work of the nurse as artist - musician, dancer, facilitator or presenter of music as an integral element of the client's participation in the healing process - has as yet not been described as an expression of caring in nursing.

Nursing as Caring (Boykin and Schoenhofer, 1993) is the framework that grounds the delineation of music as an expression of nursing. As a model for transforming practice, this allows nurses to focus their practice on nurturing a person's wholeness toward well-being. Two ways of portraying music as an expression of caring in nursing are illustrated: as the embodiment or central expression of the nursing situation; and as a complement to the artistic expression of nursing situations like as a dance or the therapeutic touch as a healing modality.

THE POPULAR USES OF MUSIC

Our awareness of the power of music is limited, perhaps because of our constricting regard for music as simply a therapeutic medium and an artform. With little meaning, these views do not allow the realization of the transformational ability of music to create or recreate scenarios into something of personal

significance. The acknowledgement that music is powerful and instrumental to the attainment and/or maintenance of health among human beings, is evidenced by the variety of findings from studies that focus on its healing effects.

Music as a Therapeutic Modality

The use of music as a therapeutic modality has been studied in nursing and other disciplines, usually as an independent variable affecting some physical or psychological variables. These studies show the uses of music in clinical situations as therapeutic modalities: the effects of rhythmic music on premature infants' food consumption and weight gain (Locsin and Locsin, 1994); the physiological and psychological effects of music on muscular energy (Guthiel, 1952); the quality and volume of pulse and blood pressures (Gaston, 1968); and the effects of music on the behavior of psychiatric patients, particularly those with phobic and/or mood alterations which were found to increase purposive physical and verbal activities especially among catatonic patients who were provided with music (Alvin, 1975; Priestley, 1975). In addition, the effects of auditory stimulation and suggestion on the pain of patients showed significant reduction in pain (Melzack, Weisz, and Sprague, 1965) including postoperative pain (Locsin, 1981; Park, 1983). A comparison of effects of jaw relaxation and music on postoperative pain was studied with no significant effects except that the prolonged use of taped interventions was reported helpful for sensation and distress of pain (Good, 1995). With the recognition that various auditory methods can also suppress pain, other sounds - particularly maternal voices heard over loud speakers - were also found to affect the development of premature infants (Katz, 1971).

Music as Artform

The value of music as an artform is a cerebral experience which focuses meaning on the person who hears it, heightening the impact of the individual's perceptions of situations seized from the music and intensifying the particular emotional conditions the individual calls forth in the moment. Various dimensions such as harmony, melody and themes exhibit the value of music as expressive forms, revealing the metaphor of music as a powerful pattern (Gendron, 1988).

In cinematography, the use of music is succinctly illustrated as an artform. Four examples are presented and explained in this paper. The first of these is a scene from the movie, "Somewhere in Time". The scene is Elsie McKenna's room near the "Grand Hotel". She comes home from a play by Richard Collier, who she believes she had met at some earlier time in 1912. As the scene unfolds, a

perceptual void illuminates emptiness, desperation, and the frustration of meaningless interaction experienced without the music. This embodiment of betrayed consequences beyond time and the encapsulated vision of a woman with tears of loneliness and resignation is never fully participated in by the viewer. The powerful, nerve-tingling, goose-flesh-raising, and soul-touching sensation is however felt as this particular scene unfolds again with the music of Rachmaninoff's 18th variation on a theme from Paganini. No longer are the facial and bodily movements devoid of meaning. Instead, the music immortalizes the mosaic of emotional sensations uniting mood, feeling, movement, sound, and thought in a complete pattern that expresses the moment.

Likewise, without John Williams' musical theme, the experience of a sterile universe and of meaningless space in the movie, "Star Wars", is beyond description. With the music however, the listener is energized by the power and mystical qualities of space, and becomes sensitized to involuntarily experience again the magnitude of infinite majesty as the scene is encountered. The listener is also able to relax and actually enjoy a scene from "Jaws" without apprehension and fear when seen **without** the music; but given the haunting, escalating background music of rhythmic, pounding, and eerie sounds, anxiety-provoking and fear-building suspense is experienced as the segment unfolds.

The fourth cinematic example is a scene from the movie "Amadeus", the controversial ballet segment of the opera "The Marriage of Figaro". Ballet was not permitted by the Emperor; thus, the theater director removed the musical score of the ballet portion. The presentation of physical, balletic expression without music is odd and meaningless, but encountered *with* the musical score intact, the grandiose beauty, value, and wholeness of the scene is restored. These descriptions of experiences encountered in music from cinematic scores reveal another value of music as an artform.

CONCEPTUALIZING MUSIC AS AN EXPRESSION OF CARING IN NURSING

Knowing Nursing as Caring

In the theory of Nursing as Caring, Boykin and Schoenhofer (1993) posit that the focus of nursing practice is the nurturing of hopes, dreams, and aspirations of caring persons toward well-being. All nursing takes place in shared nursing situations, the lived experiences in which the caring between the nurse and the nursed

enhances the mutual process of living and growing in caring. Within the intimacy of the nursing situation, calls for nursing are expressed, heard, and addressed through nursing responses of caring. Calls for nursing are conceptualized in the mind of the nurse, as he/she enters the world of the other with the intention of knowing the other as a caring person. These calls arise from the person's unique ways of living caring in the moment and from expressed dreams and aspirations for growing as caring persons. Calls for nursing are declarations from both nurse and the nursed to be known and affirmed as caring persons. Nursing responses are specific forms of caring which are created within the uniqueness of the situation. The process of living grounded in caring is then enhanced in the shared experience of the nursing situation. The caring that is nursing is "the intentional and authentic presence of the nurse with another who is known as a person living caring and growing in caring" (Boykin and Schoenhofer, 1993).

Bringing these shared experiences to consciousness demands expression in creative, imaginative, and visionary ways. Some nursing situations are presented as literary expositions such as poems in publication venues like *Nightingale Songs*, which is described as "a forum for nurses to share their silent moments of reflection on their nursing". Nursing situations are also expressed in stories which show the link between the conceptualization and the practice of nursing. Another mode of expressing nursing situations is through visual exhibitions using drawings, paintings, collages, and sculpture. While these creative, innovative and visionary expressions demonstrate the nursing which has transpired between the nurse and the person being nursed, nurses as artists also seek to consider yet other ways in which nursing can be expressed. One of these ways is the use of music as expression of caring in nursing. Nursing as an art implies that "(it) has a medium, that the nurse has a capacity to create unique forms" (Gendron, 1988) and that there are aesthetic modes of expressing nursing, particularly nursing as caring.

Music as an aesthetic expression of caring in nursing illuminates the lived experience of caring in the nursing situation and can reflect the unfolding dreams and aspirations of growing in caring. Music can communicate the experience of the co-created encounter which is nursing. The framework, Nursing as Caring, facilitates the exposition of music as an aesthetic expression of caring in nursing. From the perspective of this framework, music is recognized not only as a therapeutic medium, but also as an expression of the artform of nursing. Music can be a way in which a nurse responds to a unique call for nursing; or it can serve as the medium employed by the participants to ex-

press the caring between nurse and the nursed, as well as provide an aesthetic representation of a lived situation of caring in nursing.

As an aesthetic expression of caring in nursing, music illuminates the personal engagement of the nurse and the person being nursed, the shared visions and meanings. These illuminations may be a central and symbolic expression or a complement to the expression of caring in nursing. As the central expression, music can be the focal presentation of the nursing situation - the lived experience in which the caring between the nurse and the person being nursed enhances personhood (Boykin and Schoenhofer, 1993). As complement, it is integral to the expression of the unfolding caring moment without which such expression becomes just another display or performance of the particular artform. The following discussion will address each of these contributions which music can make in the world of nursing as caring.

To illustrate its use as a central expression, I shall describe a musical rendition through the perspective of nursing as caring. Music yields the expression of a shared experience that transpires between the nurse and the person being nursed. A musical composition and its rendering is examined here to demonstrate how music exemplifies nursing. Lewicki's (1991) performance of an original musical composition for flute and piano is an explication and appreciation of a nursing situation, and its accomplishment is illustrated by the harmonious coming together of flute and piano through music. Let me describe this nursing situation:

In the beginning, the piano introduces some notes. A few of these notes eventually unravel a distinct melody that reverberates as the thematic essence of the entire flute-piano music. The flute, in perfect rhythm, alternates with the accompanying piano to sustain the tune in harmony. While the accompanying piano music delicately allows the flute to resound its characteristic declaration of the theme, it captures and dispels the distinguishing melody. The flute alternately responds with tonal surety, evoking a sense of "being with," in harmony, with an attachment that transports the listener to a revelation of ephemeral transformation. Corresponding as distinct entities, the flute and piano produce music together in unanimity. This endeavor produces music that recognizes characteristic tones created by each instrument realizing its individual uniqueness, but simultaneously illustrates the commonality of "co-relatedness" in the created music. Momentarily, the listener is captivated and transfixed. The experience of hearing the music conveys a realization of "being with" and cared-for, feelings that are personally meaningful to the extent that without the music, the experience is just another meaningless and insignificant incident.

The instruments are able to provide creative, distinctive, and imaginative music that exemplify alternating rhythmicities: calling, hearing, and responding, like the nurse and the nursed within a nursing situation. The concurrent unity-disunity that is expressed with the created music demonstrates the mutuality of the experienced nursing situation. The flute-piano instrumental music, with each instrument producing distinct sounds, yields a "harmonious discord" that is attained only by the conscious, genuine, and intentional creation of shared music, not just one or the other, but both together. The musical expression alludes to the wholeness of the nurse and the nursed interacting; while the uniqueness of each person is maintained like individual instruments through which the creation of a mutually responding and rewarding nursing situation is experienced. Flute and piano "co-responding" are like the nurse and the person being nursed - simultaneously caring and being cared for, while sharing the experience and beauty of nursing. With Lewicki (1991), the lived experience is better understood when reflected in poetry:

The beginning states difficulty, sadness, and a will to do something about it. Complications arise and alternating rhythms are at a contrast to work through a situation of conflict. Moving towards an empathic understanding, entering the between in a way wherein the well-being is achieved. Only this time the alternating rhythms look back at the past situations, re-exploring feelings with a moral and ethical need to separate, not from the feelings, but from behavior, only to move one ... to a new growth.

As complement to the expression of caring in nursing, music is presented as integral to the performance of an artform. The unity of the dimension of the caring experience through dance using the music from the song "Natural Woman" by Aretha Franklin expresses the beauty of the all-at-once quality of the nursing situation that is established as an aesthetic expression of caring. The music, a distinct entity, and the expressive demonstration of movement through dance, unfolds with the music into one inseparable whole in space and time, communicating the unity of the particular nursing situation. Without music, this demonstration would have only appeared to be an unintelligible illustration of movement for movement's sake. With music as the vital entity integral to the expression of the beauty of the caring moment, the nursing experience is lived anew. The caring moment is best understood while listening to the music, viewing the demonstration (dance), and reading the introductory paragraph of the presentation entitled, "Natural Woman." A descrip-

tion of this experience is offered, serving to further emphasize the use of music as valuable to caring in nursing. Dance is a way to express the full dimension of care in nursing.

The song, "Natural Woman" performed by Aretha Franklin is truly an inspirational piece. . . . As the nurse and patient are better able to know each other as individuals, they become free to relate with each other in honesty and mutual respect. They enter a world, one where they can live truth and honesty. But above all they can be . . . natural (Chase, 1991).

Still another way in which music is used as complement is presented with the feeling and spirit of healing within the experience of nursing. The caring between the nurse and the nursed is represented by a poem, a performance of therapeutic touch, and the music "Ave Maria" by Bach-Gounod. These three - poetry, therapeutic touch, and music - exemplify the unity in a nursing situation, while simultaneously portraying the connectedness of the nurse and the nursed interacting. The nurse authentically and intentionally offers the self to know the other as a caring person. By doing so, she accepts the call for caring and responds with all of who she is; thus, both of them transcend the moment while growing in caring. The expression of the "caring between" is the embodiment of nurturing the person as living out the caring and growing in caring. The intensity of caring and the living of the unfolding oneness depict the nurse's authentic intention and full presence to be with the other and the patient's courage and trust in the nurse to hear his call and respond. This is lived through the strength and value of the musical rendition in the moment, and the personal engagement between the patient and the nurse. An excerpt of the poem is presented:

David, I can see your pain.
 Tell me where you are.
 Tied in bed. Powerless.
 From loved ones you're apart.
 I can't move you from this place.
 To take your pain away.
 But let me lay my hands on you
 And sing to you today."
Ave Maria, gracia plena
Maria, gracia plena
 Ave dominus, dominus tecum
 Benedicta tu in mulieribus

Et benedictus, fructus ventris;
Ventris tui, Jesu.
I sang the song he loved and used
To meditate and flee,
Escape tormenting stimuli
He needed to be freed,
To understand why he must bear
This trial, this hell, this pain,
I sang the tune; I touched with care
To give him peace again (Stobie, 1990).

This exploration of music affirms an appreciation of the ways in which music communicates nursing. The meaning of nursing situations and the use of music as an aesthetic expression of caring in nursing were described so that we may come to know the "nursing" that has transpired. Music illuminates the nursing situation, the lived experience in which the caring between the nurse and the person being nursed enhances well-being. Aesthetic expressions which heighten the experience of caring in nursing have the power to promote deep reflection on the "nursing" in nursing situations - the lived experience of the "caring between," the intimate space which nurtures caring possibilities. These caring moments, expressed as unique experiences between the nurse and the person being nursed, are here depicted as music, an aesthetic expression of caring in nursing.

As you think of all the music that has yet to be heard and of all the nursing that is yet to be encountered, be motivated and stimulated to investigate other ways of expressing nursing. In nursing, it is critical to recognize music as an aesthetic expression of caring. This will allow the practice of nursing to permeate the realm of health care - valuing the nurse as the caring other, nurturing persons as they live their caring and grow in caring. Other explorations and expositions of caring in nursing are sought to focus the understanding of nursing as nurturing dreams and aspirations which enhance well-being. To promote nursing in creative and aesthetic ways facilitates its recognition. The author hopes that this exploration and exposition of the use of music as an aesthetic expression of caring in nursing will launch its use beyond the limited boundaries of artform and therapeutic medium.

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**Nutrient Water Quality of Banica River
in Dumaguete City, Philippines
1991-1993**

**C. Dumancas, P. Suarez, M.A. Juguilon,
R. F. Lozada, M.T. Patula, N. Rubio,
N. Tan, and H. Zamora**

ABSTRACT. The river water of Banica River is analyzed for its pH, dissolved oxygen, biochemical oxygen demand, phosphate-phosphorus, nitrate-nitrogen and ammonia-nitrogen content to establish baseline data. An effective rehabilitation scheme is the expected outcome.

INTRODUCTION

Banica River has its headwaters in the upland of Valencia, Negros Oriental. It originates as a confluence of Banica Daku, Maite Creek and Apolong River at Tejeros, Valencia. The river passes through the south side of the Dumaguete City commercial district (Figure 1). Old residents of Dumaguete City have remembered the river to be deep and clear; however, at present it is shallow and dirty. Some of the factors that have brought about this condition are trash dumped into the river, domestic sewage and industrial waste. Concerns have been expressed that the river ought to be rehabilitated. However, before a rehabilitation scheme can be effected, the existing condition of the river has to be established.

Thus, this study was conducted by the Chemistry Department of Silliman University in order to establish the baseline data of the biochemical and nutrient levels in the water specifically the pH, dissolved oxygen (DO), biochemical oxygen demand (BOD), phosphate ($\text{PO}_4\text{-P}$), nitrate ($\text{NO}_3\text{-N}$), and ammonia ($\text{NH}_4\text{-N}$).

METHODOLOGY

Two 1-gallon plastic jugs were filled with water samples by submerging the container six inches from the surface at the middle of the river from ten (10) sampling stations along the Banica River (Figure 1). The sample at the river mouth was

taken during low tide when no seawater was moving into the river. Two samples for dissolved oxygen and two for biochemical oxygen demand were also collected in separate 300 ml-DO bottles. The sample for DO was immediately fixed with one milliliter manganous sulfate and one milliliter alkaline potassium iodide. The pH of the water was measured *in situ* using a Chem Cadette portable pH meter.

Five hundred ml of the collected water samples were filtered through Whatman #40 filter paper in the laboratory. The filtrate was stored at -20°C and were used for phosphate, nitrate and ammonia analysis.

Dissolved oxygen (DO-zero) was measured using Winkler Method as described by the American Public Health Association Standard Method for Examination of Water and Wastewater (APHA, 1965). The collected water samples for BOD was stored in the dark at 20°C for five days. The remaining dissolved oxygen in the sample after 5-day storage was measured (DO-5). The BOD-5 days was calculated, thus:

$$\text{BOD-5 days} = [\text{DO-zero}] - [\text{DO-5}].$$

If the DO-zero of the sample is below 4 mg/L O₂, the unfiltered water sample was diluted with distilled water at 1:1 volume ratio up to 1:10 depending upon the initial DO value. The diluted water sample was placed in DO bottles and the DO-zero and DO-5 was determined. The calculated BOD-5 for the diluted water sample is

$$\text{BOD-5 days} = [(\text{DO-zero}) - (\text{DO-5})] \times \text{dilution factor}.$$

The inorganic orthophosphate composition of the water was determined using the Molybdo-Ascorbic Acid method as described in the APHA Manual (APHA, 1965). Nitrate was measured using cadmium reduction followed by alpha-naphthyl diamine diazotization of the reduced nitrite (APHA, 1965). Ammonia was measured using hypochlorite-salicylate method described by Bower & Holm-Hansen (1980).

RESULTS AND DISCUSSION

pH. The average pH of the Banica River water taken from the different stations over the three-year period is shown in Table 1. The average pH of the river water is slightly above neutral with the lowest at pH 7.23 ± 0.29 for Candau-ay and

the highest at $\text{pH } 7.58 \pm 0.19$ for Tejeros. Figures 2a and 2b show the pH of the river water taken from the ten sampling stations at various times.

The pH of Banica River water is within the normal pH range of lake and river waters which is around 6.7 - 7.5 (Wen-Young, 1979). The pH of Banica river indicates that neither very acidic nor very basic contaminants have been introduced into the river.

The pH of the river water puts Banica River under the Department of Environment and Natural Resources (DENR) Standard as Class AA to C fresh water (Table 2).

DISSOLVED OXYGEN. The average dissolved oxygen of Banica River water ranges from $0.72 \pm 1.45 \text{ mg/O}_2$ at the river mouth to $7.67 \pm 1.37 \text{ mg/L O}_2$ at Tejeros, Valencia as shown in Table 1. The average dissolved oxygen of the river water from Tejeros to Bagacay met the DENR minimum requirement of at least 5.0 mg/L O_2 for Class AA to C fresh water as shown in Table 2. Banica river water at Foundation University met the Class D minimum requirement; while the river waters at Market Bridge down to the river mouth failed to meet the Class D criterion of at least 3.0 mg/L dissolved oxygen.

The dissolved oxygen of Banica River at various times in the different sites are shown in Figures 3a and 3b. The dissolved oxygen in the river water are generally higher during the cooler and rainy months of October 1992 to February 1993. The DO of downstream river water from Foundation University to Calindagan has an almost depleted oxygen content during the early sampling schedule from October 1991 to May 1992. It increased to above 3.0 mg/L O_2 during the rainy months of October 1992 to February 1993 and decreased to 1.0 to 3.0 mg/L O_2 in the summer of April to July 1993. The river water at the river mouth was observed to have zero dissolved oxygen from October 1991 to May 1992 and from April to July 1993.

The amount of dissolved oxygen in water is affected by its organic load, water temperature, and river water turbulence (Manahan, 1994). Decomposing organic compound in the water system needs oxygen; thus, decreasing its dissolved oxygen content. High temperature on the other hand decreases the solubility of oxygen in water. Water turbulence is directly related to water volume of the river. Increased water volume speeds up water flow and increases its cascading action over rocks thereby increasing the surface area of the water for oxygen saturation; thus, increasing its dissolved oxygen content. The

low DO at downstream area can be attributed to organic load from solid trash - domestic, slaughterhouse and market sewage channelled into the river and low river volume during the summer months. The rainy month of October 1992 as well as the succeeding months slightly improved the DO of the river water except at the river mouth. It must be noted that urban development of the City begins at Foundation University to the river mouth with its domestic sewage channelled into the river.

BIOCHEMICAL OXYGEN DEMAND (BOD). Average biochemical oxygen demand of Banica River water ranges from 1.14 ± 1.04 mg/L O₂ at Palinpinon to 20.80 ± 13.79 mg/L O₂ at the river mouth. The Banica River water at Tejeros, Palinpinon, Dumpsite, and Bagacay met the DENR requirements for Class A and B fresh water with their BOD-5 below the maximum allowable 5.0 mg/L O₂. Candau-ay and Batinguel have Class C river water with BOD-5 between 5.0 - 10.0 mg/L O₂. Banica River at Foundation University, Market Bridge and Calindagan have Class D water with BOD-5 between 10.0 - 15.0 mg/L O₂ while the river mouth water with 20.80 mg/L O₂ failed to meet the Class D requirement.

Figures 4a and 4b show the BOD-5 of the river water at different sampling times over the three-year period. The river water from Tejeros to Batinguel (Figure 4a) met the BOD-5 requirement for Class A and B river water except Candau-ay and Batinguel areas during the months of June and July 1993. During these months, the dissolved oxygen is below 3.0 mg/L O₂ which indicates a high organic load that depletes the oxygen in the water after five days of incubation. There was no unusual activity in those sites during these times except that it was the start of the rainy season. Surface water run-off from the dumpsite cannot be the immediate cause of the high BOD-5 in Candau-ay and Batinguel inasmuch as the sampling station just below the dumpsite have BOD-5 of 1.88 and 2.24 mg/L O₂ during those same two months of June and July 1993.

The BOD-5 of the river water downstream closer to the urban area have values beyond the 10.0 mg/L O₂ DENR requirement for Class D water as shown in Figure 4b. These downstream areas are densely populated. Solid waste thrown into the river, domestic waste, fish washings from the market, washings from the slaughterhouse, and other waste are channelled into the river. These waste have high organic content which needs oxygen or BOD-5 to decompose. The kitchen sink washings of typical homes in the Philippines do not go to the septic tank but are directly channelled into the public drainage system (Duran, 1996). Fish, meat, and food particle washings which have high organic component are drained into the city sewer which leads either to the river or directly into the sea.

PHOSPHATE-PHOSPHORUS. The average phosphate concentration of Banica River ranges from 0.08 ± 0.07 mg/L $\text{PO}_4\text{-P}$ at Tejeros to 1.13 ± 0.07 mg/L $\text{PO}_4\text{-P}$ at the river mouth as shown in Table 1. Tejeros river water met the DENR requirement of below 0.1 mg/L $\text{PO}_4\text{-P}$ for Class AA water. Banica River water at Palinpinon, dumpsite and Candau-ay met the Class A requirement of 0.1 - 0.2 mg/L $\text{PO}_4\text{-P}$; while Batinguel and Bagacay have Class B river water with respect to phosphate requirement. Banica River water at Foundation University down to the river mouth can be classified as Class D inasmuch as the DENR did not set a standard for Class D river water with regards to its phosphate content.

Figures 5a and 5b show the $\text{PO}_4\text{-P}$ content of the river water over the three-year period. Upstream river water has minimal phosphate content in spite of the laundry detergents used by residents. Decomposed organic waste, polyphosphates of detergents and fertilizer runoffs are major sources of phosphates in the water system (Manahan, 1994). The downstream area from Foundation University to the river mouth have higher phosphate content above the Class C requirement of 0.4 mg/L $\text{PO}_4\text{-P}$. The accumulated detergent washings coupled with domestic waste maybe responsible for the high phosphate content of the river water in the downstream area.

NITRATE-NITROGEN. The average nitrate-nitrogen of the Banica River water is shown in Table 1. It ranges from 0.07 ± 0.13 mg/L $\text{NO}_3\text{-N}$ at Tejeros to 0.98 ± 0.91 mg/L $\text{NO}_3\text{-N}$ at Calindagan. The nitrate content of the Banica River water met the Class AA maximum requirement of 1.0 mg/L $\text{NO}_3\text{-N}$. Figures 6a and 6b show the nitrate-nitrogen content of the river water at different months. Nitrate is the final oxidation product of nitrogenous organic compounds.

AMMONIA-NITROGEN. Table 1 shows the average ammonia-nitrogen of Banica River water over the three-year period from October 1991 to July 1993. The ammonia-nitrogen content of Banica River water ranges from 0.02 ± 0.04 mg/L $\text{NO}_3\text{-N}$ at Batinguel to 1.31 ± 1.72 mg/L $\text{NO}_3\text{-N}$ at the river mouth. Figures 7a and 7b show the ammonia-nitrogen content of Banica River water at different months. The river water in downstream stations from Foundation University to the river mouth have higher ammonia-nitrogen as compared with those taken from the upstream area. The DENR did not set a standard for ammonia-nitrogen in water.

Ammonia is the direct by-product of living organisms, fresh organic waste, as well as anaerobic decomposition of organic materials. The safe concentration of ammonia for fresh and seawater species is less than 1.0 mg/L $\text{NH}_3\text{-N}$ (Wen-Yong,

1979). Ammonia in the gaseous state is very toxic to living organisms but is harmless in ionic state. Water with low pH and high calcium content converts the gaseous ammonia to less toxic ammonium ions. In the presence of oxygen in the water, ammonia is oxidized into nitrite then nitrate ion.

Table 3 summarizes the classification of Banica River water at different stations with regard to its pH, oxygen and nutrient content. Taking the lowest classification met by the river water at various sampling stations, Tejeros, Palinpinon, and dumpsite can be classified to have Class A river water; Banica River at Bagacay can be classified as Class B water; Batinguel and Candau-ay have Class C river water while the river at the back of Foundation University has Class D qualities. Banica River at Market Bridge, Calindagan and at the river mouth failed to meet the requirement of Class D water with respect to its dissolved oxygen. The water of Banica River at its river mouth also failed to meet the biochemical oxygen demand of Class D water.

CONCLUSIONS

Urbanization of Dumaguete City has changed the water quality of Banica River from Tejeros, Valencia down to the river mouth. Banica River at Tejeros down to the dumpsite met the requirement of Class A river water. The river water at Bagacay has Class B qualities while Batinguel and Candau-ay met the Class C river requirements. The river water at Foundation University met the Class D criterion. Banica River from the Market Bridge to the river mouth failed to meet the Class D requirement with regard to its dissolved oxygen. Banica River at the river mouth also failed to meet the biochemical oxygen demand requirement of Class D water.

The major factors that have affected the quality of Banica River are domestic, market, slaughterhouse, and surface water runoff with high organic content. Impounding the domestic, municipal, and industrial organic waste in properly constructed septic tanks minimizes the oxygen demand of the water in the river. Reforestation of Banica River watershed also increases the water volume of the river; thereby improving its dissolved oxygen and biochemical oxygen quality.

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Table 1. The average and standard deviation of the pH, DO, BOD, and nutrients concentration of the Banica River water samples from October 1991 to July 1993.

Site	pH (units)	DO (mg O ₂ /L)	BOD (mg O ₂ /L)	PO ₄ -P (mg/L)	NO ₃ -N (mg/L)	NH ₄ -N (mg/L)
Tejeros	7.58 ± 0.19	7.67 ± 1.37	1.14 ± 1.62	0.08 ± 0.07	0.07 ± 0.13	0.04 ± 0.07
Palinpinon	7.49 ± 0.25	6.86 ± 1.27	1.14 ± 1.04	0.10 ± 0.08	0.09 ± 0.19	0.05 ± 0.05
Dumpsite	7.34 ± 0.29	6.02 ± 1.66	1.87 ± 1.86	0.12 ± 0.08	0.08 ± 0.10	0.02 ± 0.05
Candau-ay	7.23 ± 0.45	5.76 ± 1.80	6.34 ± 12.96	0.17 ± 0.14	0.12 ± 0.15	0.06 ± 0.22
Batinguel	7.25 ± 0.46	5.98 ± 2.67	6.38 ± 12.00	0.21 ± 0.17	0.26 ± 0.38	0.02 ± 0.04
Bagacay	7.30 ± 0.30	5.20 ± 1.81	3.57 ± 3.51	0.28 ± 0.21	0.16 ± 0.20	0.04 ± 0.06
Foundation	7.41 ± 0.39	3.15 ± 3.06	10.91 ± 10.32	0.45 ± 0.29	0.22 ± 0.24	0.23 ± 0.53
Market	7.33 ± 0.41	2.37 ± 2.93	12.97 ± 11.03	0.77 ± 0.46	0.74 ± 0.66	0.69 ± 0.98
Calindagan	7.36 ± 0.50	1.99 ± 2.13	12.63 ± 8.97	1.01 ± 0.49	0.98 ± 0.91	0.85 ± 1.20
River Mouth	7.33 ± 0.40	0.72 ± 1.45	20.80 ± 13.79	1.13 ± 0.54	0.82 ± 0.87	1.31 ± 1.72

Table 2. Water quality criteria for conventional and other pollutants contributing to aesthetics and oxygen demand for fresh waters (DENR Administrative Order No. 34, Series of 1990).

PARAMETER	UNIT	CLASSAA	CLASSA	CLASSB	CLASSC	CLASSD
pH		6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.0-9.0
DO (minimum)	mg/L	5.0	5.0	5.0	5.0	3.0
BOD-5	mg/L	1	5	5	7(10)	10(15)
PO ₄ -P	mg/L	nil	0.1	0.2	0.4	..
NO ₃ -N	mg/L	1.0	10	NR	10	..

Table 3. Classification of Banica River water based on its nutrient and oxygen content.

Site	pH	DO	BOD	PO ₄ -P	NO ₃ -N
Tejeros	Class AA	Class AA	Class A	Class AA	Class AA
Palinpinon	Class AA	Class AA	Class A	Class A	Class AA
Dumpsite	Class AA	Class AA	Class A	Class A	Class AA
Candau-ay	Class AA	Class AA	Class C	Class A	Class AA
Batinguel	Class AA	Class AA	Class C	Class B	Class AA
Bagacay	Class AA	Class AA	Class A	Class B	Class AA
Foundation	Class AA	Class D	Class D	Class D	Class AA
Market	Class AA	below D	Class D	Class D	Class AA
Calindagan	Class AA	below D	Class D	Class D	Class AA
River Mouth	Class AA	below D	below D	Class D	Class AA

Table 1. The average and standard deviation of the pH, DO, BOD, and nutrients concentration of the Banica River water samples from October 1991 to July 1993.

Site	pH (units)	DO (mg O ₂ /L)	BOD (mg O ₂ /L)	PO ₄ -P (mg/L)	NO ₃ -N (mg/L)	NH ₄ -N (mg/L)
Tejeros	7.58 ± 0.19	7.67 ± 1.37	1.14 ± 1.62	0.08 ± 0.07	0.07 ± 0.13	0.04 ± 0.07
Palinpinon	7.49 ± 0.25	6.86 ± 1.27	1.14 ± 1.04	0.10 ± 0.08	0.09 ± 0.19	0.05 ± 0.05
Dumpsite	7.34 ± 0.29	6.02 ± 1.66	1.87 ± 1.86	0.12 ± 0.08	0.08 ± 0.10	0.02 ± 0.05
Candau-ay	7.23 ± 0.45	5.76 ± 1.80	6.34 ± 12.96	0.17 ± 0.14	0.12 ± 0.15	0.06 ± 0.22
Batinguel	7.25 ± 0.46	5.98 ± 2.67	6.38 ± 12.00	0.21 ± 0.17	0.26 ± 0.38	0.02 ± 0.04
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Foundation	7.41 ± 0.39	3.15 ± 3.06	10.91 ± 10.32	0.45 ± 0.29	0.22 ± 0.24	0.23 ± 0.53
Market	7.33 ± 0.41	2.37 ± 2.93	12.97 ± 11.03	0.77 ± 0.46	0.74 ± 0.66	0.69 ± 0.98
Calindagan	7.36 ± 0.50	1.99 ± 2.13	12.63 ± 8.97	1.01 ± 0.49	0.98 ± 0.91	0.85 ± 1.20
River Mouth	7.33 ± 0.40	0.72 ± 1.45	20.80 ± 13.79	1.13 ± 0.54	0.82 ± 0.87	1.31 ± 1.72

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PARAMETER	UNIT	CLASSAA	CLASSA	CLASSB	CLASSC	CLASSD
pH		6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.0-9.0
DO (minimum)	mg/L	5.0	5.0	5.0	5.0	3.0
BOD-5	mg/L	1	5	5	7(10)	10(15)
PO ₄ -P	mg/L	nil	0.1	0.2	0.4	..
NO ₃ -N	mg/L	1.0	10	NR	10	..

Table 3. Classification of Banica River water based on its nutrient and oxygen content.

Site	pH	DO	BOD	PO ₄ -P	NO ₃ -N
Tejeros	Class AA	Class AA	Class A	Class AA	Class AA
Palinpinon	Class AA	Class AA	Class A	Class A	Class AA
Dumpsite	Class AA	Class AA	Class A	Class A	Class AA
Candau-ay	Class AA	Class AA	Class C	Class A	Class AA
Batinguel	Class AA	Class AA	Class C	Class B	Class AA
Bagacay	Class AA	Class AA	Class A	Class B	Class AA
Foundation	Class AA	Class D	Class D	Class D	Class AA
Market	Class AA	below D	Class D	Class D	Class AA
Calindagan	Class AA	below D	Class D	Class D	Class AA
River Mouth	Class AA	below D	below D	Class D	Class AA

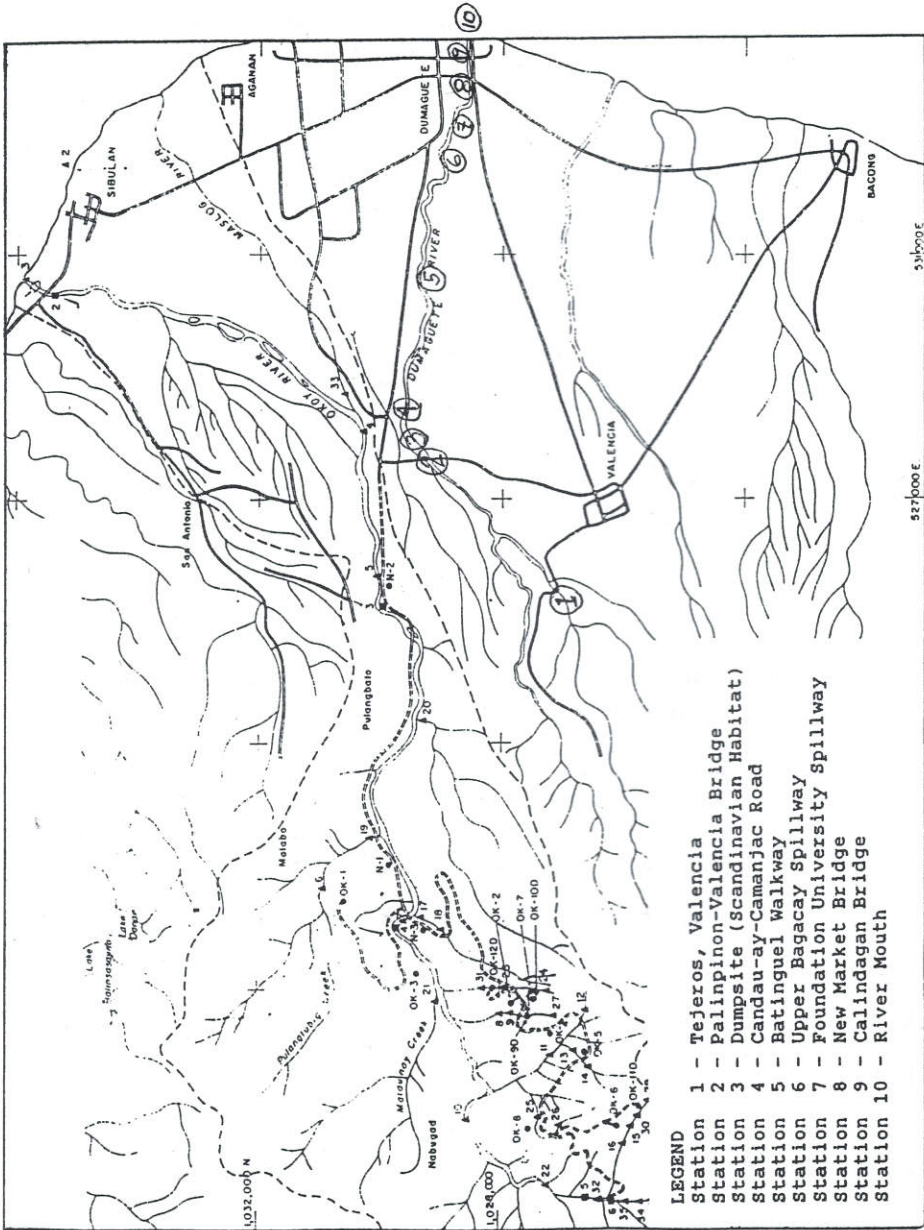


Figure 1. Banica River sampling stations.

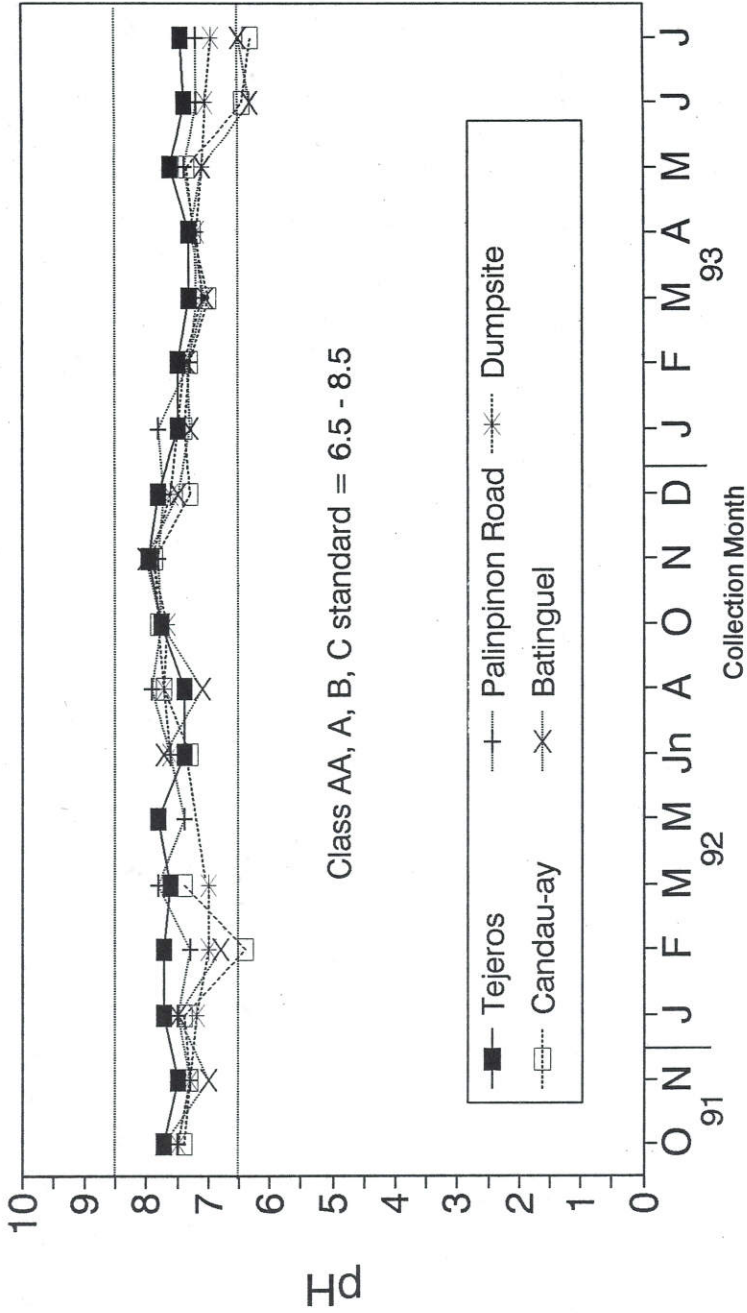


Figure 2a. The pH of Banica River water from Tejeros to Batinguel.

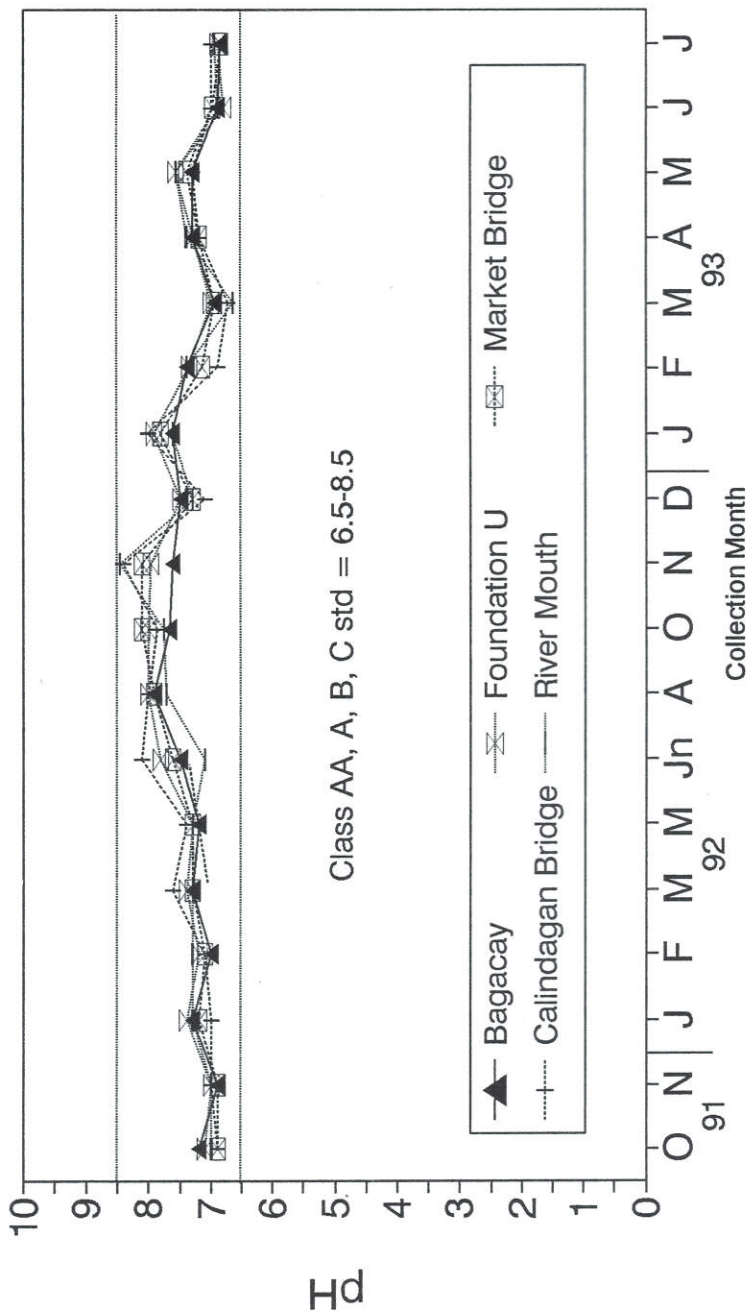


Figure 2b. The pH of Banica River water from Bagacay to River mouth.

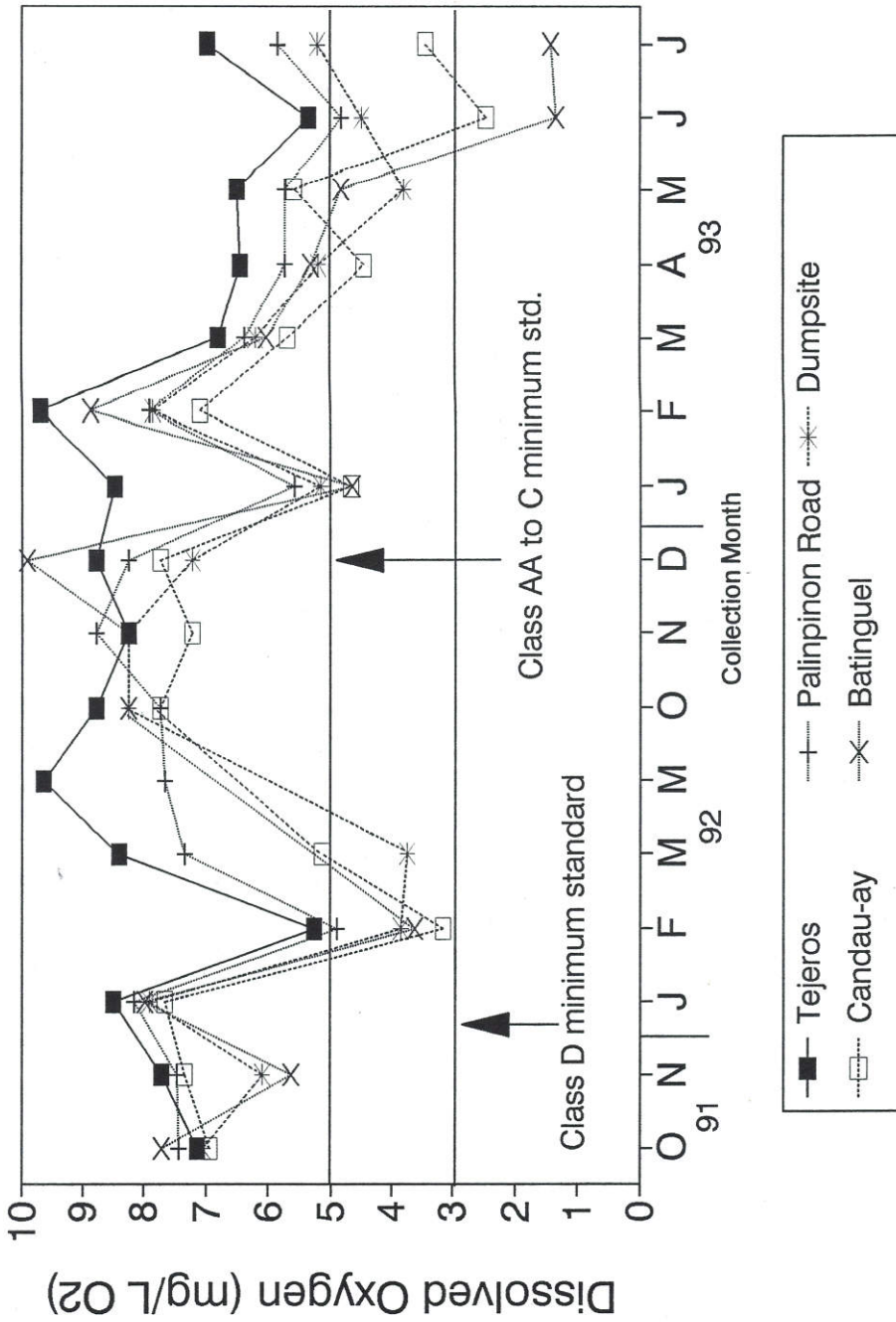


Figure 3a. Dissolved Oxygen (DO) of Banica River from Tejeros to Batinguel.

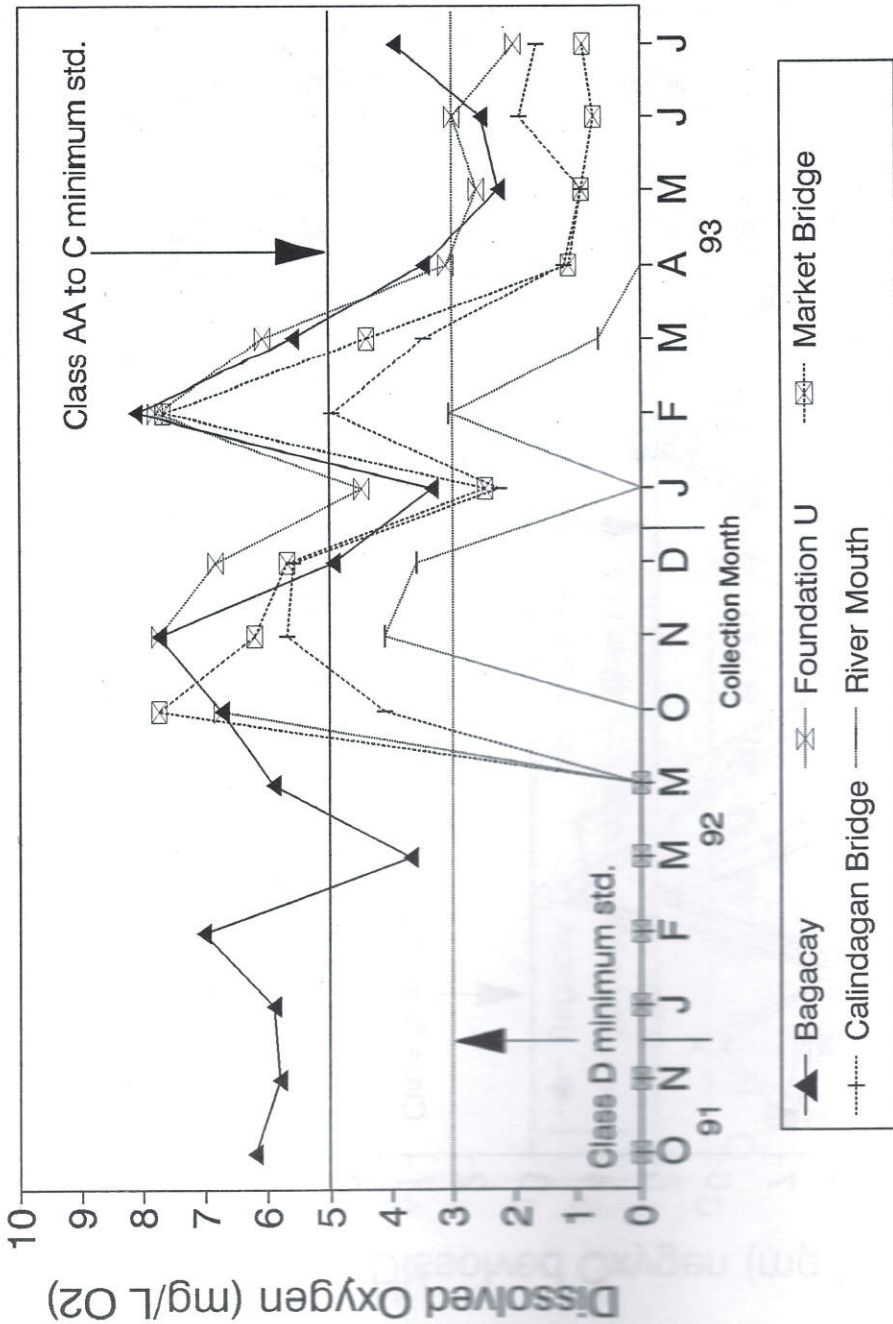


Figure 3b. Dissolved Oxygen (DO) of Banica River from Bagacay to river mouth.

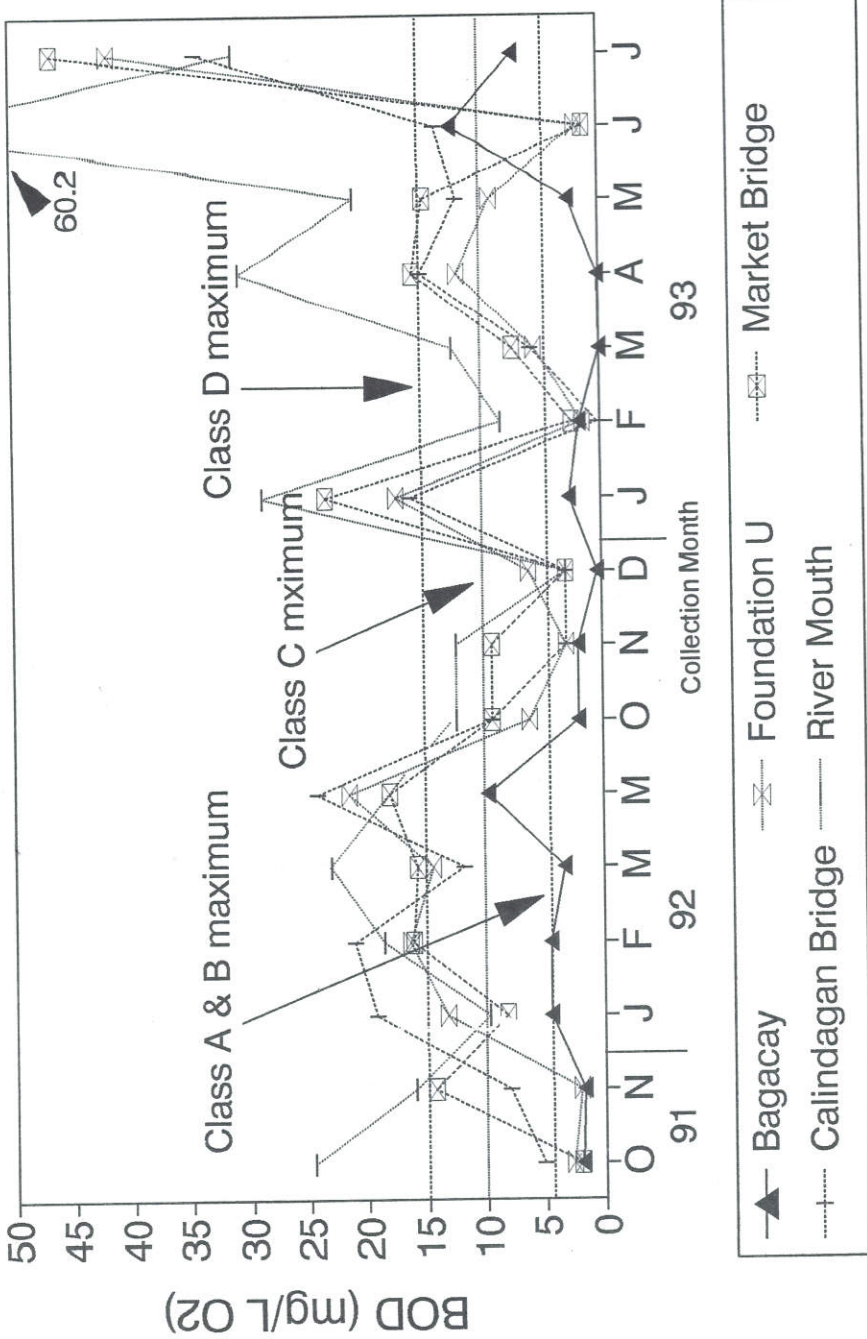


Figure 4b. Biochemical Oxygen Demand (BOD) of Banica River from Bagacay to river mouth.

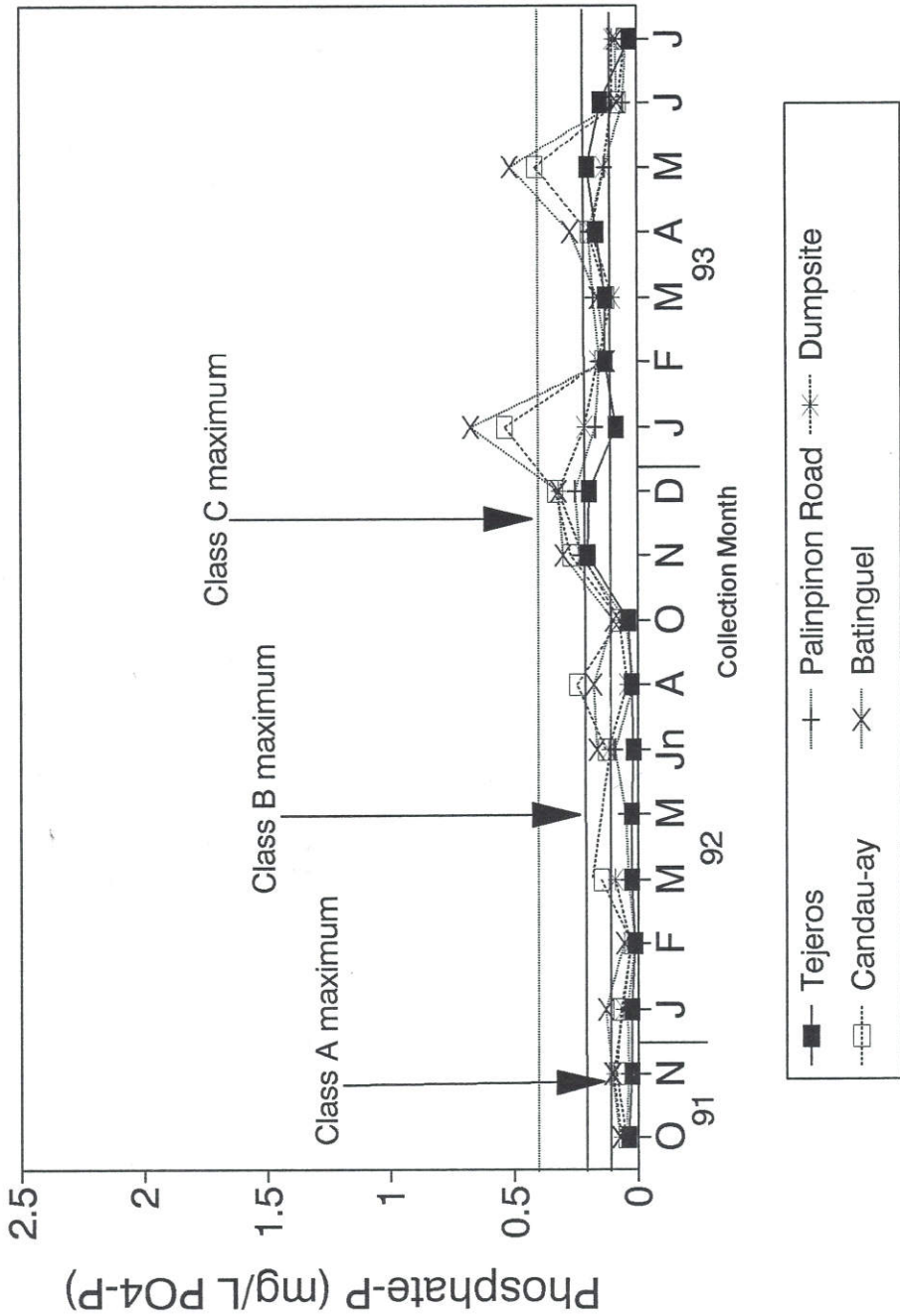


Figure 5a. Phosphate-P in Banica River from Tejeros to Batinguel.

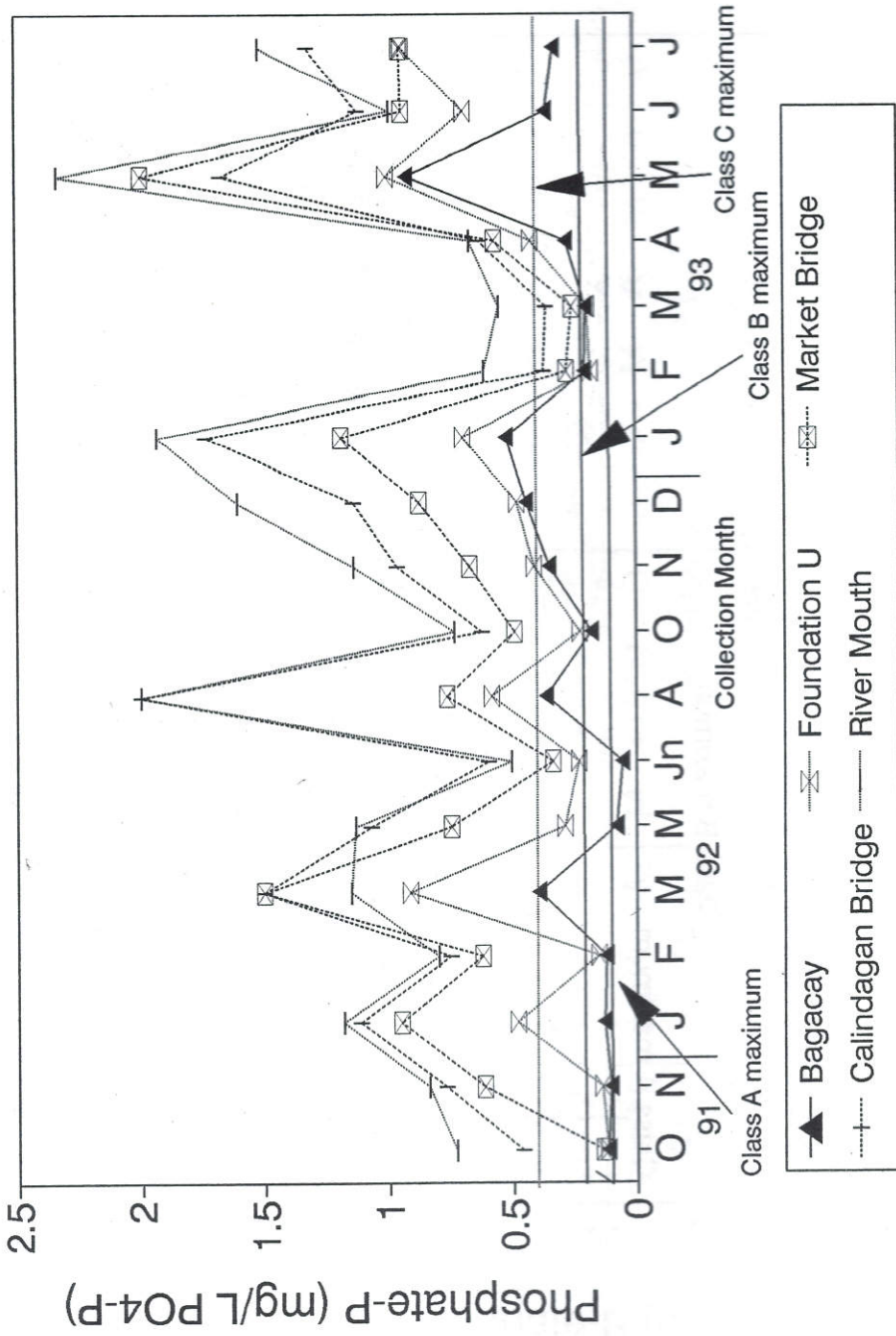


Figure 5b. Phosphate-P in Banica River from Bagacay to river mouth.

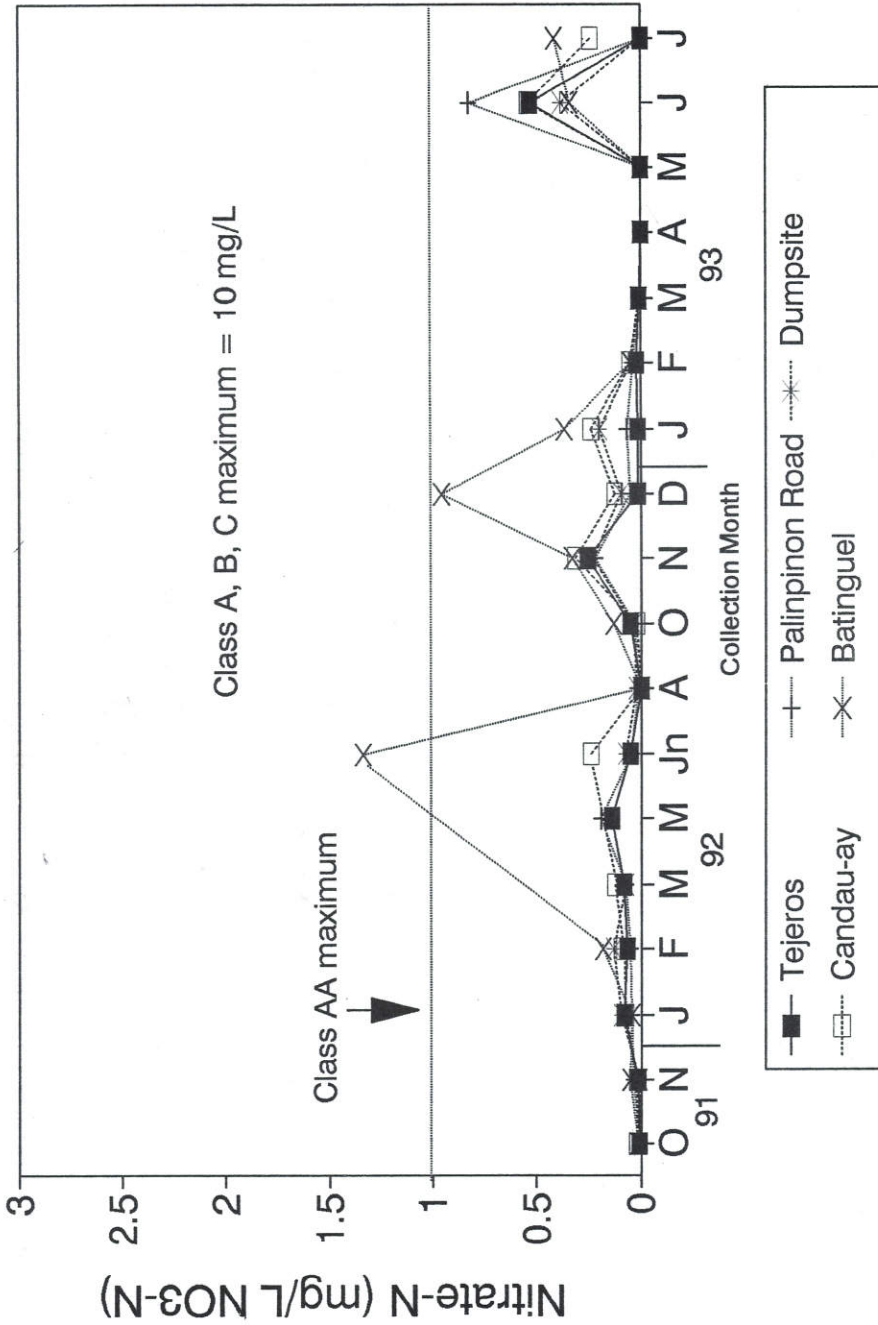


Figure 6a. Nitrate-N of Banica River from Tejeros to Batinguel.

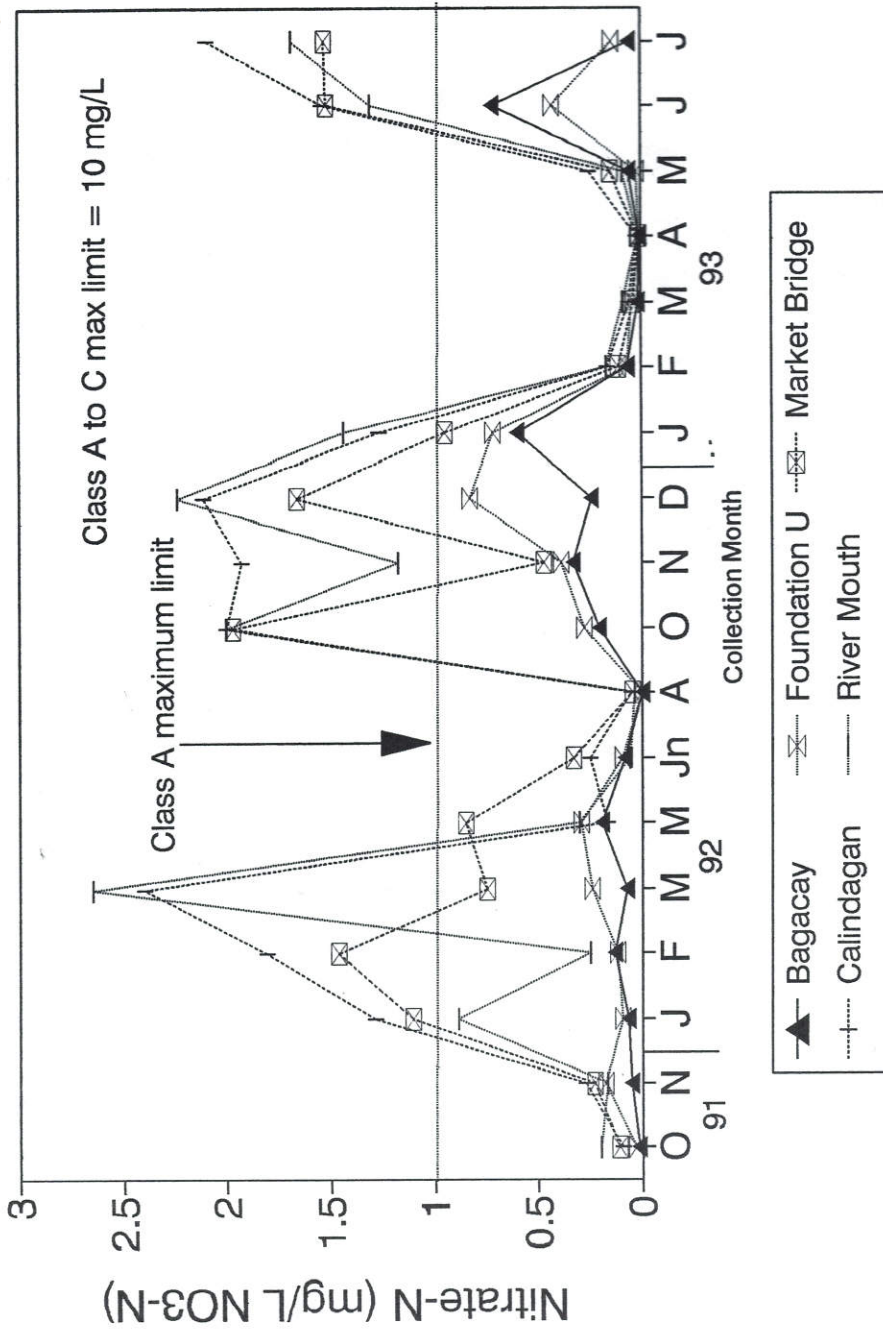


Figure 6b. Nitrate-N of Banica River from Bagacay to the river mouth.

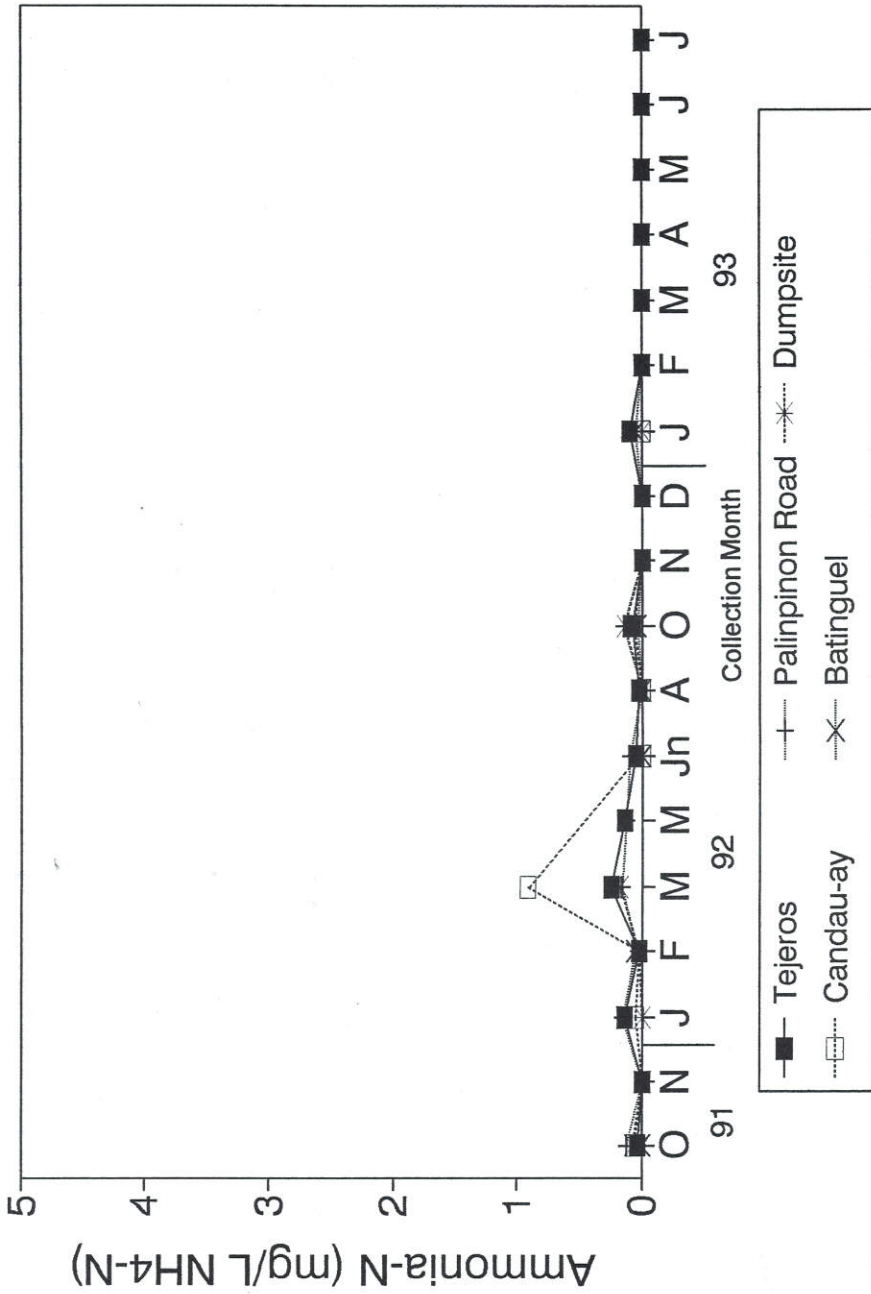


Figure 7a. Ammonia-N in Banica River from Tejeros, Valencia to Batinguel.

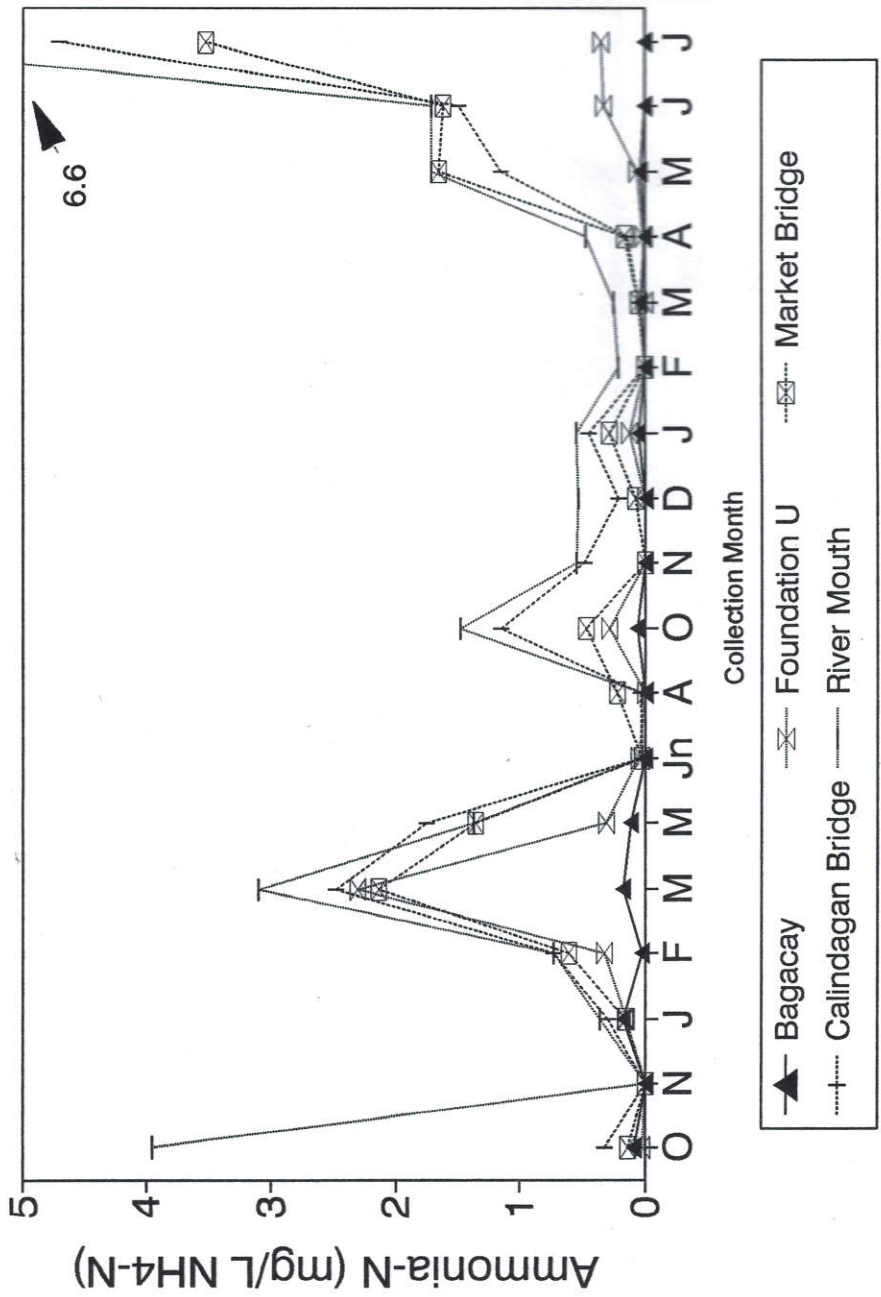


Figure 7b. Ammonia-N in Banica River from Bagacay to the river mouth.

**ON THE OCCURRENCE OF BULLATIONS IN THE
SEAGRASS, *HALOPHILA OVALIS* (R. BROWN) HOOKER F.
FROM BAIS BAY, CENTRAL PHILIPPINES**

Ernani G. Meñez and Hilconida P. Calumpong

Introduction

In a survey of seagrasses in Bais Bay, Negros Oriental in Central Visayas, Philippines in April 1984 and June 1985, the authors collected an "unusual" looking seagrass in the intertidal area. Material collected in both years were sterile. When examined closely, more than half of the larger leaves were found to have "bullations". These bullations are due to the presence of bulliform cells described by Esau (1965) as "enlarged epidermal cells with their anticlinal walls ... participating in involution and folding movements". In grass leaves, these bulliform cells enable the leaves to fold or roll during excessive loss of water (Esau, 1965), as in intertidal areas.

Bullate cells in seagrasses were first seen by Setchell in 1924 in a collection of *Halophila ovalis* from the American Samoa. He described these specimens as *H. ovalis* var. *bullosa*. Den Hartog (1970) considered this taxon as sufficiently distinct and raised it to subspecies. It is interesting to note that den Hartog also found bullate cells in some *H. stipulacea* (Forsk.) Aschers. from the Red Sea. Calvin McMillan (1982) however, using isozyme and culture studies, found no taxonomic basis for separating *Halophila ovalis* based on bullation. Considering the widespread distribution of these cells in terrestrial - and sea grasses and recognizing its role during water loss - the authors concur with McMillan. Bullate leaves of *H. ovalis* have been encountered in samples from Samoa, Tonga and the Fiji Islands and now from the Philippines.

Description (Figures 1,2)

Plants with long and narrow rhizomes, not more than 1 mm in diameter; internodes 5-30 mm long; usually one root present below each erect shoot. Erect shoot consists of a pair of leaves borne on each node. Leaves petiolated, petioles 7-20 mm long, each enveloped by a pair of transparent scales. Apex of scales emarginate, the base slightly auriculate. Leaf blades linear-lanceolate, occasionally oblong or elliptic, width 2-4.5 mm, length 8-14 mm, apices obtuse, bases attenuate, margins

entire; generally with 8-9 pairs of alternate or sometimes opposite cross-veins, diverging at 45-degree angle from the midrib; cross-veins occasionally forked. Upper and lower surfaces of the blade glabrous; margin of blade entire; often leaves bullate and two sides of the leaf blade unequal. The Philippine specimens are slightly larger than the ones described by den Hartog (1970) from the South Pacific. Also, one can encounter both smooth and bullate leaves in the same plant.

Natural History

Samples were collected from the exposed southern opening of North Bais Bay on the northern tip of Daco Island (9°35'49" N latitude, 123°09'03" E longitude) in Negros Oriental, Central Visayas, Philippines. The collecting site is intertidal; the substrate is mud and fine sand. During low tide, the extensive intertidal area becomes exposed. The water is generally turbid (<3m transparency) as three rivers drain into the area. Organic pollution is high as residents along the shore dump untreated sewage into the sea. This is exacerbated by the presence of a sugar mill, poultry farms and piggery in the area. Salinity ranges from 28 ppt to 36 ppt and water temperature from 24°C to 40°C. The plants occur in a mixed seagrass bed dominated by *Enhalus acoroides* (L.f.) Royle, and with *Cymodocea rotundata* Ehrenberg and Hemprich ex Ascherson, *Halodule pinifolia* (Miki) den Hartog and *Halophila ovalis* (R. Brown) Hooker f. Mature leaves of plants are found heavily epiphytized by the cyanophycean, *Lyngbya majuscula* (Dillwyn) Harvey and the red alga, *Goniotrichum alsidii* (Zanardini) Howe. Pennate diatoms also inhabit blade surfaces.

Specimens Studied: 84-EM: From the northern tip of Daco Island in North Bais Bay, Negros Oriental Philippines; intertidal; muddy bottom with fine sand; collected by L. Alcala, D. Catada and S. Alcazar in April 1984. 85-EM: Same collecting site and collectors as above; collected on June 23, 1985.

Acknowledgements: We are grateful to Jacinta Lucan-as for laboratory assistance, to Zacharias Generoso for field assistance and to Elijah Serate for photographic assistance.

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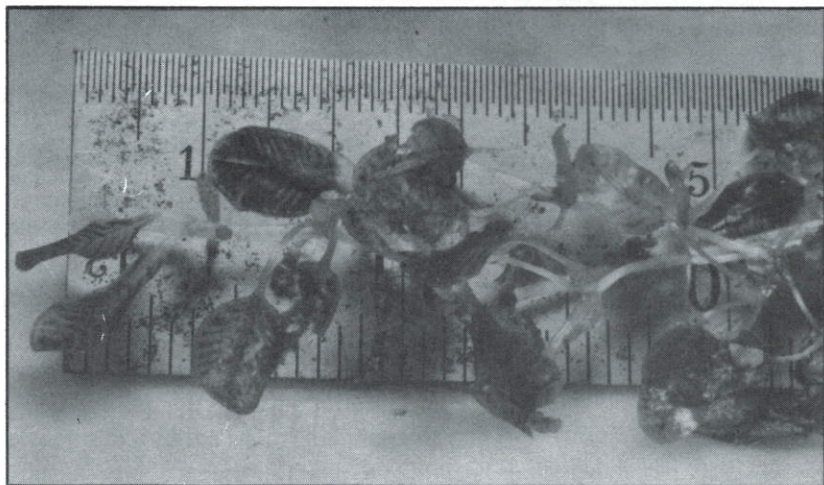
Figure Legends

Figure 1. *Halophila ovalis*, habit.

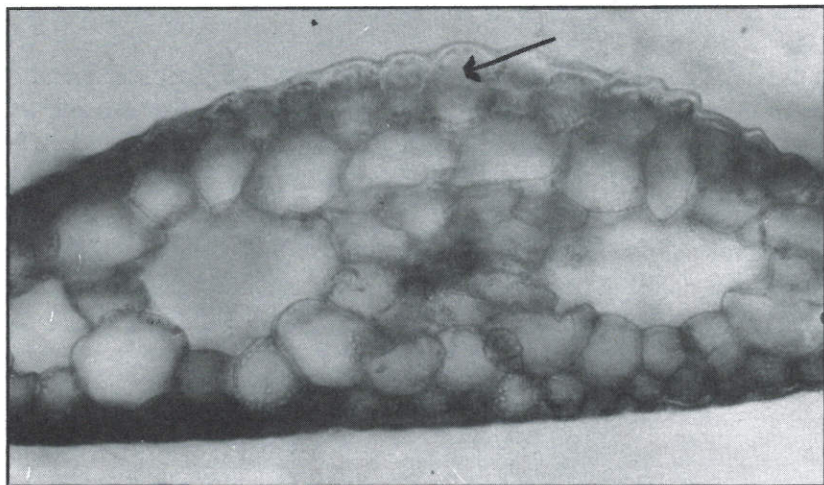


Figure 2. Cross-section of a leaf, showing slightly bullate cells (arrow).

WHY JANE AUSTEN

Dale Law

In my twenty years at Silliman University, the attempt to transmit a personal enthusiasm for novels and poems written a hundred and more years ago has not infrequently met stiff resistance from my students. Very often this resistance has been articulated in one word: "irrelevant"! My effort in this paper, at least in part, is to show that "relevance" is often taken too seriously, too narrowly, and that one may find relevance where one little expects it - even in a life-long interest of mine, the early nineteenth-century British novelist Jane Austen, who probably never heard of the Philippines.

Rudyard Kipling, another nineteenth-century Briton, is a household name no longer. He is furthermore today somewhat infamous as the poet of British imperialism and colonialism. But he provides a place to start this discussion. In a book of Kipling's short stories, *Debits and Credits*, appears "The Janeites," a once quite famous story about old soldiers discussing old battles. The subject of "one Jane" comes up. An ignorant soldier had heard her name mentioned by the officers in the midst of battle. Because of the bond it seemed to build among the initiated, he had thought "Jane" a code word, perhaps of some secret society. At any rate, devotion of "Jane" seemed to give her admirers strength in difficult times. In conversation with another old soldier, the discovery comes:

"Oh Jane was real, then? Anthony glanced for an instant at me as he put the question. "I couldn't quite make that out."

"Real!" Humberstall's voice rose almost to a treble. "Jane? Why, she was a little old maid 'oo'd written 'alf a dozen books about a hundred years ago. "Twasn't as if there was anythin' to 'em either. I know. I had to read 'em. They weren't adventurous, nor smutty, nor what you'd call even interestin' — all about girls o' seventeen (they begun young then, I tell you), not certain 'oom they'd like to marry; an' their dances an' card-parties an' picnics, and their blokes goin' off to London on 'orseback for 'air-cuts an' shaves. It took a full day in those days, if you went to a proper barber. They wore wigs, too, when they was

chemists or clergymen. All that interested me on account o' me profession, an' cuttin' the men's 'air every fortnight. Macklin used to chip me about bein' an 'airdresser. 'E could pass remarks, too!" (Kipling: 132).

Jane was real! Of course, Kipling is working on two levels here — and "Jane's" reality transcends the commonplace, disparaging assessment of the second soldier. Jane's reality is like that of "Shakespeare our contemporary" - Kipling is saying, her works are truly for all times and all places:

"Jane wasn't so very 'ard — not the way Macklin used to put 'er," Humberstall resumed. "I 'ad only six books to remember. I learned the names by 'eart as Macklin placed 'em. There was one, called Persuasion, first; an' the rest in a bunch, except another about some Abbey or other — last by three lengths. But, as I was sayin', what beat me was there was nothin' to 'em or in 'em. Nothin' at all, believe me."

"You seem good and full of 'em any'ow," said Anthony.

"I mean that 'er characters was no use! They was only just like people you run across any day. One of 'em was a curate—the Reverend Collins— always on the make an' lookin' to marry money. Well, when I was a Boy Scout, 'im or 'is twin brother was our troop-leader. An' there was an upstandin' 'ard-mouthed Duchess or a Baronet's wife that didn't give a curse for any one 'oo wouldn't do what she told 'em to; the Lady--Lady Catherine (I'll get in a minute) De Bugg. Before Ma bought the 'airdressin' business in London I used to know of an 'olesale grocer's wife near Leicester (I'm Leicestershire myself) that might 'ave been 'er duplicate. And—oh yes—there was Miss Bates; just an old maid runnin' about like a hen with 'er 'ead cut off, an' her tongue loose at both ends. I've got an aunt like 'er. Good as gold—but, you know" (Kipling: 133-34).

The non-academic Jane Austen of Kipling's British officers continues to thrive. There are still plenty of Janeites, ordinary folks who read Austen's novels, who join the International Jane Austen Society and contribute their thoughts to its monthly journal. Thousands of these non-professionals make pilgrimages to Steventon and

Chawton and Bath and Lyme and Winchester, sites of her life and works and death, bringing home postcards, souvenir books, and Jane Austen dolls. Of course the danger of trivializing her works exists, but Austen described her own art in very modest terms: "The little bit (two inches wide) of ivory on which I work with so fine a brush as produces little effect after much labour" (Letters: 469). "Three or 4 families in a country village is the very thing for me to work on" (Letters: 401).

The novels also continue to be taken very seriously by academics. A veritable Jane Austen industry yearly spawns dissertations, books and seminars by the hundreds. Austen today stands as a towering figure of early nineteenth century English literature - even of world literature.

Such fame is surprising in some ways. She saw nothing of it in her lifetime; her novels were published anonymously until after her death. Daughter of a country pastor, she lived almost completely out of high society. And she never married. The obscurity in which she lived makes substantial biography almost impossible. There are no multi-volume studies of her life of the sort that honor other nineteenth-century British novelists. We do not even have a clear idea of what she looked like. Two very amateur watercolors by her sister Cassandra exist; one, a back view, hangs in the National Portrait Gallery in London.

Although she had almost no literary acquaintances with whom she might share deep thoughts about her art, her surviving letters to family and friends cover a wide range and are of great interest. These letters and anecdotes passed down through the family, have always been the main sources for information on her life. Very recently though, investigators have tried to get beyond the letters. Of particular interest is Park Honan's effort in Jane Austen: Her Life (1987). Honan makes an ingenious attempt to flesh out Austen's life using unorthodox, tangential sources and family information that had never before become available. For instance, brief mention has long been made of Austen's sailor brothers. Both became admirals in the Royal Navy. One reached the highest rank possible and never retired, serving in active duty until his peaceful death well into his eighties. And then there was the cousin who married a French nobleman - a man who lost his head in the Reign of Terror during the Revolution. Honan explores these relations in deeper fashion than any earlier biographer and is able to convincingly forge a connection between larger world events and Austen's life and writings. In doing so, he underscores the fact of her concern with issues of society beyond the local and personal.

Austen's early death in 1817 at age 41, cut short a career that was really just beginning. She had completed only the six novels mentioned by Kipling's old soldier. But from these books a comprehensive picture of life in late eighteenth century English emerges. I earlier (Law, 1977) made efforts to use Austen's novels and a number of books that she read or may have read in an attempt to glimpse that world through her eyes. As Kipling shows so well, Austen writes not just stories, she depicts a people, a culture. Of course, as she paints her world, she also reveals herself. Her books lead us to raise many underlying sociological questions as we note coincidences and discrepancies between our world and hers. So often her characters, especially her women, act in ways that seem just short of irrational to us today. As we question such behavior, we cannot escape exploring the role of woman in her time.

The fact of gender is inescapable. Honan is particularly good at showing this human side of Austen. Although reports say she was not really beautiful, many seemed to have admired her eyes — she was quite a popular young lady. She loved to dance. No slave to her literary art, she had several brushes with romance, even accepting at least one marriage proposal. This offer from a much younger man she thought better of the next morning and withdrew from, with much embarrassment on both sides. Through their many ups and downs, Austen's novelistic heroines have better luck in love. As her life and work are set side by side, it is difficult to keep from concluding that the success of her heroines may in some way substitute for her own less-fulfilling life experiences.

Although the mating process is always at the center of her art, Austen approaches it from a variety of directions and with a wide range of heroines. All, though, share a common frustration - whether they are conscious of it or not. As very early nineteenth-century women they can only fully be themselves in marriage. An unattached woman faces restrictions hard to imagine in our liberated age. Austen's most famous example is found in Pride and Prejudice: Elizabeth Bennet is perfection itself. She is intelligent, beautiful, positively charming; yet she is nearly condemned to withered old-maidhood. Why? Her intelligence works against her marriage prospects. She sets her standards so high that she either frightens the men away or herself rejects them as inferior to her ideal. It takes a near miracle to bring her happiness.

Emma Woodhouse in Emma, is somewhat less attractive to readers than Elizabeth, although she shares Elizabeth's charms. But Emma is rich; wealth makes her too sure of herself and what she can do. Feminine self-confidence in a world

dominated by men brings on the mistakes that Emma makes for herself and for others. In this novel, luck and an older admirer with infinite patience bring Emma to happiness. A similar theme of mistakes - but those growing out of Catherine Morland's ignorance and inexperience - is found in Northanger Abbey. Again, happiness comes because a man can put up with the heroine's winning foolishness.

Fanny Price in Mansfield Park, is close to an archetype of female weakness. This relatively unappealing heroine dimly flickers through her novel, hovering at the edge of the stage, waiting for her cousin Edmund to notice and appreciate the purity of her true heart. Once more, women either strong or weak, are helpless. They cannot act meaningfully on their own behalf but must await lucky circumstances or the actions of men to bring them to fulfillment.

The most wrenching example of the female dilemma is perhaps found in Persuasion, published after Austen's death. Anne Elliott has been persuaded by Lady Russell, the bosom friend of her late mother, to say "no" to the man she loves. The arguments are that she does not know her own young mind and that she will receive more eligible offers of marriage in the future. Lady Russell is wrong on both counts, as Anne's happiness has clearly been blighted. The mistake seems to us simple to correct, but Anne's position as woman prevents her from reversing her decision. Years of regret take her long past a "marriageable" age. Almost miraculously, events conspire to give her a second chance at happiness, but the recurrent theme of women disadvantaged and of women thwarting women, is not negated.

The prime example in Austen's work of female helplessness - perhaps oppression, it seems to me - is found in Sense and Sensibility, an early novel that is not generally regarded as among her best. Here we see two sisters, young, attractive, but not wealthy, placed in a vulnerable position by the sudden death of their father, whose fortune goes to his eldest son. Both Marianne and Elinor Dashwood fall in love, but neither receive the automatic benefits such a state would bring. Although the novel might be looked at in many different ways as the title indicates, the two girls can be seen as representative of types. Elinor, the elder sister, is more formal, less spontaneous, more careful. She scrupulously follows the principles of eighteenth-century courtship which caution a woman to be very sure that he loves her before she displays her affection for a man in any way. In a society which so much values appearances, a woman must guard against having her possible disappointments exposed. Even worse, the weak position of woman - particularly of a woman who lacks powerful male protectors - leaves her without recourse should she find herself not just broken-hearted, but also pregnant and abandoned. The latter

predicament is actually presented in Sense and Sensibility, although it occurs off-stage and to a peripheral character, not to one of our heroines.

At any rate, and at her own peril, Marianne — embodied “sensibility” — ignores all rules. She follows only her own heart in wild, unchaperoned pursuit of her beloved Willoughby, a man who proves unworthy of her. We readers sympathize with their frantic love affair; after all, we are Romantics, too. But the couple is in gross violation of eighteenth-century decorums. Sister Elinor tries “sensibly” to restrain Marianne, while also attempting to suppress her own feelings in what seems an equally hopeless romance.

I have written elsewhere (Law, 1977) about the education of women during the period and the effect it had upon their modes of behavior. Then, as now, girls learned not just from parents and from experience, but from books. Guides to polite behavior were readily available in published form. However widely such “courtesy books” may perhaps have been ignored, it is known that Austen indeed read many of them, had several in her private library, and commented on them in her letters. In general, writers of such books base their strictures loosely on the principles of Locke and Rousseau, with great attention to the “nurture” and protection of young women, giving strict guidelines for behavior that should become habit.

Many of the principles set forth specifically pertain to relations between the sexes. By twentieth-century Romantic standards, these ideas seem ludicrous. For instance, a woman must not express her positive feelings for a man until a proposal of marriage has actually been made. No — repeat, no — “encouragement” is to be given him. She should retain an air of inaccessibility. Ideally, she must not allow herself to “love” even in her imagination, until that marriage proposal has been received. Of course, this ideal lay somewhat far from the reality, with illegitimate births not unheard of in literature or in life.

But the ideal was proclaimed. Daughters, as “weaker vessels” must be protected, with many restrictions put upon their development and activities to keep them within the mold. James Fordyce, whose extremely popular Sermons to Young Women (1766; 11th ed., 1792) dwells extensively on the “weaker vessels” (I Peter 3:7) construct, holds that the goal of a female’s education must be behavior in accord with “the principle of elegant simplicity.” The aim is to produce a woman at least somewhat decorative, neither dangerous nor entirely useless.

Fordyce more than once includes cautions in the following vein: “Need I tell you, that men of the best sense have been usually adverse to the thought of marry-

ing a witty female?" (Fordyce, I: 192). Thus, education should make a woman "refined" rather than "profound," her hallmark, "unaffected bashfulness." Fordyce ends his book with two sermons "On Female Meekness."

Perhaps even more difficult for moderns to take seriously is the advice of John Gregory, a medical doctor, in his Father's Legacy to his Daughters (1774: 32):

Though good health be one of the greatest blessings of life, never make a boast of it; but enjoy it in grateful silence. We so naturally associate the idea of female softness and delicacy with a corresponding delicacy of constitution, that, when a woman speaks of her great strength, her extraordinary appetite, her ability to bear excessive fatigue, we recoil at the description, in a way she is little aware of.

A reading of such books of advice, the same books that Austen herself read, soon makes it clear to us, as it was clear to Austen, that women had not fallen naturally into the weak position in which they found themselves at the end of the eighteenth century. They had been placed there by men, who, from their positions of power, continued to manipulate female education to keep women powerless.

It is not entirely certain that Jane Austen had access to the pioneering feminist work of Mary Wollstonecraft, A Vindication of the Rights of Woman (1792), but there is in Austen's novels an identical, if less strident thrust:

I may be accused of arrogance; still I must declare what I firmly believe, that all writers who have written on the subject of female education and manners, from Rousseau to Dr. Gregory, have contributed to render women more artificial, weak characters, than they would otherwise have been; and, consequently, more useless members of society (Wollstonecraft: 53).

Wollstonecraft - who died giving birth to daughter Mary, a woman who would in her own right become famous as wife of Romantic poet Percy Shelley and author of Frankenstein - attacks the foundations of education for women laid down by those male manipulators whom Austen read and deplored:

Novels, music, poetry, and gallantry, all tend to make women the creatures of sensation, and their character is thus formed in

the mould of folly during the time they are acquiring accomplishments, the only improvement they are excited, by their station in society, to acquire. This over-stretched sensibility naturally relaxes the other powers of the mind, and prevents intellect from attaining that sovereignty which it ought to attain to render a rational creature useful to others, and content with its own station (Wollstonecraft: 105).

Austen's Sense and Sensibility fleshes out Wollstonecraft's abstractions, as the two Dashwood sisters suffer parallel disappointments, fruit of the sort of education Wollstonecraft decries. Elinor's Edward, dazzled by seeming "accomplishments", had earlier thoughtlessly asked the greatly inferior Lucy to marry him. Edward feels honor-bound to that secret engagement even when he sees Elinor, and his eyes are opened to Lucy's crudeness.

Elinor may be more ready than her sister Marianne for bad news, but her adherence to the female role keeps her so reticent that she can provide little comfort to Marianne when the younger sister's heart is likewise broken. The dashing Willoughby literally sweeps Marianne off her feet. And the public nature of their courtship scandalizes - while it also entertains - the community. Marianne, unprotected and unadvised, is blind to adverse possibilities. It is clear to the readers that although Willoughby badly wants Marianne, he needs money more. Of course when he discards Marianne for a wealthier, if less attractive woman, Marianne is devastated. The ensuing novelistic illness takes her near death. Like her sister, Marianne has not been provided with the intellectual or material resources that might help her to determine her own fate.

Perhaps the worst aspect of this feminine predicament, again clearly shown by Austen, is that women have apparently been trained to oppress other women. In Sense and Sensibility, the girls' widowed mother is of no help at all. Mindlessly conditioned to take her lead from men, she senses nothing amiss either in the obvious double-dealing of Willoughby or in the more subtle moodiness and delayed proposal of Edward. No attempt at intervention is made until it is too late. Elinor and Marianne are afflicted also by Mrs. Jennings' persistent teasing and the heartless stupidity of Lucy's sister. No relief is available for the suffering pair; as women they must wait. There is simply nothing else to be done.

Once more the happy ending comes. This time good luck is combined with Lucy's fickleness and the steadiness of the slightly older Colonel Brandon, who has

always admired Marianne from a distance. But the same ingredients could so easily have brought on tragedy. Pregnancy out of wedlock, and the resulting burden of shame in that society, so often led to further moral degeneration, illness, even death - perhaps through suicide. And the spinsterhood of a Jane Austen is no very attractive alternative.

It should be abundantly clear to her readers that Austen understood the position of woman in her time - and that she objected to it. Within the restrictions put upon her, she expressed herself as best she could. Life was difficult enough for the "ordinary" women of her novels, but there was simply no place for one of Austen's genius and gender in the society in which she found herself, even in her own home. Admired as she was by some of her brothers and sisters, others in the family considered her a sort of freak, reacting with fear when simple Aunt Jane was uncovered as a published novelist, apparently anxious about who might have been the original of an unattractive man or woman delineated in her last book.

Perhaps Austen preferred being treated as nothing special, but her art cannot have been enhanced by the advantages withheld from her. Made famous by twentieth century novelist Virginia Woolf was the arrangement of three chairs on which Austen, seriously ill, did her final work while her hypochondriacal mother occupied the only sofa in their small house. Would a male writer have been treated so? Her early death in obscurity cannot be separated from the fact that Jane Austen was a woman.

Austen was of course, but one of so many who suffered. Even the relatively enlightened late twentieth century is replete with such abuses based on gender. But Austen's case seems a particular waste. The novels and the life they express show such genius, such power for love. Though disadvantaged, Austen refused to compromise. She would not conform by accepting the safety of a marriage less ideal than those granted her heroines. Nor would she compromise her art by agreeing to write what was expected of her. In a famous exchange of letters with the chaplain to the Prince Regent of England, she politely rejects every condescending, patriarchal suggestion that that powerful man has to make for "her next novel."

But neither was Austen a propagandist. She is never strident but always subtle in her art. Despite the wrenching disappointments in her personal life and in those of her female contemporaries transmuted into the pain her heroines endure, Austen consistently holds to idealized endings. The message is clear: woman will eventually prevail, and on her own terms.

Jane Austen was certainly no Filipina; and she walked the earth almost two hundred years ago. But how can her art, even from the point of view of our very different Philippine society, be seen as other than important to our lives today? To me it is clear that Austen's life and work — and her death — are analogous to the twentieth-century struggles of women in every country on earth — West, East, Third World, Russia, the Philippines; Muslim countries, Christian countries, Hindu countries. Millions of women, sisters of Jane Austen, are finally rising up to break the bonds that so tightly bound the author and her heroines long ago. They are now fighting the battle that Austen could fight only through her anonymous novels, a battle that she really did not know how to fight. Today, at last, they seem to be winning.

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A CHOICE OF CREATION¹

Perla Rizalina M. Tayko

Within a span of three decades, the number of honorees or those in the upper 10% of the student population is today almost the same - despite the increase of enrollment on campus this mid-nineties as compared to that of the mid-sixties. In fact, it has decreased over time. Why? Where have all the honorees gone? Fallen off the wayside?

VIA, VERITAS, VITA - the way, the truth, the life - has remained the unwavering banner or motto, the unshakable rock, the non-negotiable yardstick of Silliman University education. How have these roots been nurtured, translated, pursued, expanded, related and transcended to become relevant and responsive to the changing times?

Many of us Sillimanians, both here on campus and out there in the far and wide world, are in this trap: the time we enjoyed then on campus is the same time we want resurrected to enjoy now.

If we take a moment in time even just to begin to think - to take the challenge to create abundance in the future - that which is better than or different from but definitely with qualities of excellence and elegance, is a leverage for the future.

This is a choice of creation rather than a cycle or recycle of confirmation. Today, by the very act of that choice to create the imagery of the future, we live in the future now, today.

There is a hairline difference in this timeframe continuum, a very subtle, tricky difference in that we can slide back and forth in a pendulum unknowingly, when we are not "thinking how we are thinking" or when we are not processing the way we are thinking, whatever we are thinking.

Excerpted from a speech by Dr. Perla Rizalina M. Tayko at the 38th Honors Day Convocation, Silliman University, Dumaguete City on February 16, 1996.

This is so because the past perspective and experience is the road already taken; thus, we slide back to the comforts of it and wish it were the same tomorrow - familiar as it were - and think that it is all right. Symbolically, as we look back to the past rather than the future, we become a pillar of salt like Lot's wife and never dare to create or chart a new course that is different.

The corollary question is: Is there a choice one way or the other? Can we enjoy and cherish with a sense of pride the past glories and at the same time create to leverage the future? Surely, we can choose both and live life more fully and abundantly.

How can you have both timeframes in the continuum of yesterday, tomorrow and today at the same time?

There is a process, a technology if you will, a new insight in sync with the current waves of development - the waves of information, productivity and excellence, and imagination. To start this process or journey, there is a point to begin: state clear your purpose in life. Stay clear in your purpose so that you can stay creative in your perspective. Stay connected in your person and relations. Stay committed in your projects; thus, all your doing and having - efforts to do, to have, and become - are definitely purposive. In this manner you are able to stay differentiated in your competence. Stay directed in your commitments. Stay decisive in your choices to pursue or act. Stay dedicated in your compassion and relations.

The very source of one's meaning in life that can weather the storm or take against all odds, is the clarity of purpose of one's being here on earth: being alive in this place at this time of your history.

How many of you are in courses chosen by your parents? How many of you have been in a situation by someone else's choice where you did not make a real choice out of your own discernment? A primary principle is: determine your life purpose so you can receive assistance directly from the future. The second step in the process is to learn how to take a trip or trek, an iteration trip in your inner world, in your mind or thinking process. Think global and act local. Think whole first, relate, comprehend and then act on target, on specific steps.

Today, the conditions and circumstances, factors and forces in our environment both internal and external to our functioning have changed dramatically with the many changes in time and over time, in space and over space, in relation and multi-

ple relations such that time and space are no longer the main roadblocks to mobility, activity, connectivity, and creativity. Global message transmittal used to be limited to air mail or telegram or expensive telephones, now with the latest means of E-Mail and Internet, information can be circulated around in no time at all and with least cost.

These things and many more have tremendous implications on our ways of doing; but more importantly, to our ways of thinking. Very often our way of thinking is the least affected and so we drag behind in our response-time to make creative choices or innovative options.

Given these conditions of complexity and multiplicity of issues, forces, relationships, influences and effects, it is NOT enough for you to be BASIC LITERATE; that is, educated, able to read, write and do arithmetic effectively, efficiently, and be knowledgeable about current information. Nor is it enough to be BRAWN LITERATE - competent, conversant, skillful in your trade or profession, possessing engineering competency, nursing competency, lawyering competency, teaching competence, and the like. Given such expertise, it is only one small slice of the whole pie of knowledge.

In the light of the information age - when information implodes and explodes within us as well as in emerging waves of development like productivity, imagination, and whatever comes in the future - to manage effectively, efficiently, ethically, excellently and elegantly now and in the future, you need to be BRAIN LITERATE. You need to understand and utilize your understanding of your brain functioning in the way it processes information from various lenses, perspectives or reference points and take a GLOBAL TRIP or a WHOLE PERSPECTIVE to be able to MAKE CHOICES and ACT ON THOSE CHOICES THAT WOULD MAKE BREAKTHROUGHS AND CREATE ABUNDANCE. As the saying goes: SOW A THOUGHT AND YOU REAP AN ACT. SOW AN ACT AND YOU REAP A HABIT. SOW A HABIT AND YOU REAP A CHARACTER. SOW A CHARACTER AND YOU REAP A DESTINY.

The iteration process is a thinking process, a common sense internal human processing. It is thinking how you are thinking; but this thinking can be tricky, threatening or a real treat.

Is this practised in your classrooms? Is this taught consciously by your mentors?

It is tricky if you think only straight, simply logical or linear thinking. Tricky, because you can get trapped into thinking you are thinking all right because you are thinking straight. The paradox is that when you think only straight, you lose 50% of the routes that are curved or looped - the back side of a face value. Advocating that the only way to improve service is to increase fees - increase water fees to improve water service; increase faculty salary to improve faculty performance - is an example of thinking straight.

Thinking straight gives you the illusion that you are clear and straight; but the truth of the matter is that you only see one road that only gives you 50% of the view to one destination - which may not even be in the right direction.

This iteration process is also threatening. It can be a threat to your thinking straight, because as soon as you loop to take a different view, you can become uncertain of what you think is certain and ambiguity sits in. Then fear can dominate your feelings out of uncertainty.

But the redeeming, refreshing, rewarding and reaffirming feature of this iteration process is, **YOU ARE GOING TO HAVE A TREAT - A REAL TREAT TO ABUNDANCE - THE ABUNDANCE OF INFORMATION FROM ALL PERSPECTIVES FROM WHICH YOU CAN MAKE THE BEST CHOICES ACCORDING TO YOUR PURPOSE.** As you take the trick and threat in stride, you get a treat.

The iteration process is **BRAIN LITERACY**, the technology of common sense for the next century. It is **WHOLE BRAIN FUNCTIONING** - wholistic education, clear-headedness: logical but intuitive, active and affective, analytical but synthetic, specific but encompassing. Not one but **ALL**, are qualities of our mind, our intellect, the gift that God has given us in full - not in parts but in fours, not in portions but in fullness.

While we were growing up and studying in Silliman far away from home, my father used to remind us about four things a man must learn to do:

**IF HE MUST MAKE HIS RECORDS TRUE,
TO THINK WITHOUT CONFUSION CLEARLY,
TO ACT FROM HONEST MOTIVES PURELY,
TO LOVE HIS FELLOW MEN SINCERELY, AND
TO TRUST IN GOD AND HEAVEN SECURELY.**

Processually, we can reverse these four things:

Begin. TRUST IN GOD AND HEAVEN SECURELY. Take Luke 12:31: Seek ye first the Kingdom of God and his righteousness and all these things shall be added unto.

And Proverbs 3:5-6: Trust in the Lord with all your heart and lean not unto thine own understanding. In all thy ways acknowledge him and he shall direct thy path. LOVE FELLOW MEN SINCERELY is our motivation in dealing with significant and even not-significant others in our affections and relations;

ACT FROM HONEST MOTIVES PURELY is our integration of action, motivation and direction;

THINK WITHOUT CONFUSION CLEARLY is our iteration process that will lead us to creative breakthroughs.

Symbolically, our iteration process - the brain literacy we need for the information age in the 21st century - can be likened to the transformation process of this beautiful creature: it can happen instantaneously in our mind. In one moment we are on the ground in touch with the realities and experiences of the world like a caterpillar crawling slowly, heavy-laden with our load rooted to the past and the present. Then in a moment, we can become a cocoon in our minds as we dream dreams of the future as it were; but until we spread our wings and take off to make a choice to act our choices out of the learnings of the past and the prospects of the future, we remain unborn to face the challenge of creating and making the future NOW.

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