

# UPDATE

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On the Cover: "Pawikan" College of Architecture float, Lantern Parade 2018

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## FROM THE EDITOR

Through the years, “UPDate Diliman” (UPDate), a bimonthly publication of the UP Diliman Information Office (UPDIO) under the Office of the Chancellor, had various transformations in terms of layout, design, color palette, typography and sizes, among others.

From its original 8.5 x 11 inches in size in 1996, UPDate transformed into a broadsheet in 1998 to accommodate the growing demands for publishing more newsworthy articles about UP Diliman as well as features on the trail blazing researches and achievements of the academic community. UPDate sported a broadsheet form with 11 x 16.9 inches in width and length until 2018.



To further improve our service to the UPD community and its various publics, UPDIO has re-conceptualized our community newspaper for a more interesting look and content. It is now reformatted into a magazine and renamed “UPDate.” This will be a quarterly publication measuring 8 x 10.5 inches in size.

The new format has full feature articles on some of the burning issues and achievements affecting the UPD community and the general public.

It is with great pleasure that I introduce to you dear readers our maiden issue.

**Sir Anril Pineda Tiatco**  
Editor



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# Acting like gods

IMAGE BY **Leonardo A. Reyes**

Humans could live for 500 years due to medical breakthroughs and a rise in biomechanics. This was claimed by a “Daily Mail Online” article in March 2015, said Leonardo A. de Castro at the recent Forum on Science, Technology and Society at the UP College of Education Benitez Theater.

**D**e Castro also shared a November 2015 “Daily Telegraph” report that claimed “it is possible to actually stop people growing old as quickly and help them live in good health well into their 110s and 120s.” De Castro, a former professor and chairperson of the UPD Department of Philosophy, is a bioethics consultant to many organizations including United Nations and World Health Organization.

In the 20<sup>th</sup> century, this desire to produce human-like creatures, or prolong life, intensified through genome editing and reproductive cloning technologies.

**GENOME EDITING.** According to the Genetics Home Reference of the US National Library of Medicine, this group of technologies “gives scientists the ability to change an organism’s DNA. These technologies allow genetic material to be added, removed or altered at particular locations in the genome.”



De Castro

One form of gene editing is gene therapy, “an experimental technique that uses genes to treat or prevent disease.” Through this method, a mutated gene that causes disease, like breast cancer, can be inactivated or replaced with a gene’s healthy copy; or a new gene can be introduced to the body to help fight a disease.

Another form is genetic enhancement, “the directed use of biotechnical power to alter, by direct intervention, not disease processes but the ‘normal’ workings of the human body and psyche, to augment or improve their native capacities and performances,” according to the Center for Bioethics and Culture Network. This is more popular with athletes who want to become faster, stronger or attain bigger muscles, De Castro added.

Meanwhile, according to the School of Medicine Center for Health Ethics of the University of Missouri, the forms are closely related but “the distinction between the two is based on purpose. Gene therapy seeks to alter genes to correct genetic defects and thus prevent or cure genetic diseases. Genetic engineering [or enhancement] aims to modify genes to enhance the capabilities of the organism beyond what is normal.”

**BODY PARTS TRANSPLANTS.** An earlier way of treating dysfunctional body parts is through “organ transplants,” De Castro said. “But now, we have 3D printing technology of body parts, such as ears or nose, and even of prosthesis.”

A new technology, face transplant was developed to help restore a person’s quality of life and function after suffering from a tragic accident involving the face and where plastic surgery is not sufficient, De Castro added.

This technology benefitted American Katie Stubblefield. “In 2014, the then 18-year-old survived a self-inflicted gunshot wound to the face. Three years to the day she arrived in Cleveland, a donor face became available. She had countless appointments, saw dozens of specialists and underwent 13 surgeries. During a 31-hour surgery in 2017, doctors transplanted 100 percent of Katie’s face,” De Castro shared.

**REPRODUCTIVE CLONING.** Dolly the sheep, is the first mammal to be cloned from an adult cell, according to [www.animalresearch.info](http://www.animalresearch.info).

With the use of udder cell, unfertilized egg cell and electrical pulses, Dolly was born in 1996 at the Roslin Institute in Scotland and was euthanized in 2003 due to diseases.

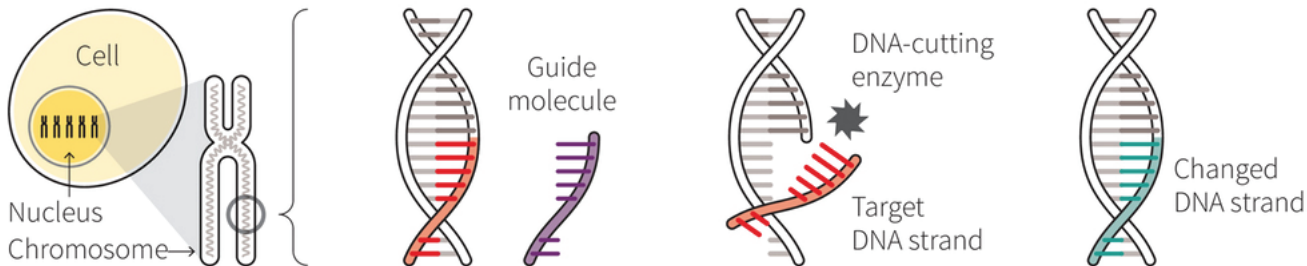


*Ian Wilmut, the lead researcher of the group that cloned Dolly the sheep (top) and Dolly with her baby Bonnie (right).*



# Gene editing

A DNA editing technique, called CRISPR/Cas9, works like a biological version of a word-processing programme's "find and replace" function.

## HOW THE TECHNIQUE WORKS



A cell is transfected with an enzyme complex containing:

-  Guide molecule
-  DNA-cutting enzyme

A specially designed synthetic guide molecule finds the target DNA strand.

An enzyme cuts off the target DNA strand.

The amended DNA strand repairs itself.

"Dolly's reproduction was made without the use of a male sheep or male mammal, in general. Cloning was also successful with a cat," De Castro said. Through cloning technology, new ways to produce medicines, e.g. for hemophilia and cystic fibrosis, were discovered, and the understanding of development and genetics improved.

**ETHICAL CONCERNS.** In his late 18<sup>th</sup> century experiments, French scientist Luigi Galvani observed that "dead frogs twitched their limbs when subjected to electricity," explained Prof. Benjamin M. Vallejo Jr. of the UPD Institute of Environmental Science and Meteorology during the forum.

This resulted in the "Galvanism" phenomenon where Galvani believed that the dead can be brought back to life through electricity.

"Thus, there was an increased need for corpses for the studies and experiments of anatomists and surgeons in Great Britain resulting in grave robbing or body snatching. Because the only bodies legally available for medical dissection were the remains of executed criminals, demand far outpaced supply. Grave robbing usually occurred on mass graves of the urban poor," said Prof. Frances Jane P. Abao, an assistant professor at the UPD Department of English and Comparative Literature.

This resulted in the Anatomy Act of 1832 which "ended the use of dissection as a post-mortem punishment for murder and instead allowed surgeons to dissect unclaimed bodies of those who had died in prison or the workhouses."

In gene editing, De Castro shared a July 2018 "Live Science" article saying "Huge chunks of DNA were unintentionally being deleted, rearranged and otherwise mutated so severely that cells lost function in about 15 percent of cases."

Organ transplants also created ethical issues as reported in the "Philippine Daily Inquirer" where "doctors fear rise in organ trafficking as demand spikes." De Castro said some sectors take advantage of poor Filipinos willing to sell their organs for money.

This organ selling was even discovered to begin 30 years ago as reported by a "New Internationalist" article. "The trade began as early as the 1980s particularly in the Middle East, Latin America and Asia with 'transplant tourists' receiving kidney from 'living suppliers' residing in slum areas. However, some of these 'transplant tourists' suffered post-operative complications and mortalities resulting from mismatched organs and infections including HIV and Hepatitis C."

The forum "Science, Literature and Ethics: Celebrating the Bicentenary of 'Frankenstein'" was part of the UPD Science, Technology and Society Month 2018.



# CUTTING-EDGE

BY Anna Regidor



# Closer to the stars, safer on land

IMAGE BY Leonardo A. Reyes



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The Philippines is now one step closer to the stars as it ventures into establishing its own space agency.

**O**n Dec. 4 the Philippine Congress approved at its third and final reading House Bill 8541 also known as Philippine Space Development Act.

If passed, the law would provide for the creation of the Philippine Space Agency (PSA), a central agency that shall be the “primary policy, planning, coordinating, implementing and administrative entity of national government that shall plan, develop, and promote the national space program.”

**SAFER ON LAND.** Even before this event, scientists and experts from the Department of Science and Technology (DOST) and UP Diliman (UPD) have spent the better part of the past decade dabbling in space technology in aid of disaster risk management.

The Philippines Scientific Earth Observation

Microsatellite (PHL-Microsat) is a 3-year, P840M program that began in 2015 and successfully sent two satellites into orbit: micro satellites Diwata 1 (launched April 2016) and Diwata 2 (launched October 2018) in cooperation with Hokkaido University and Tohoku University.

A third, smaller nano satellite called Maya-1 was sent into orbit on Jun. 29 in cooperation with the Kyushu Institute of Technology.

The satellite images gathered can be used to monitor terrain and vegetation changes throughout the year and identify high-risk areas for local government units.

PHL-Microsat has already produced some 50 experts in satellite construction and data interpretation and deployed graduate and research students in Japan who will eventually come back to the Philippines to teach.

According to DOST Undersecretary Rowena Cristina Guevara, the team has been providing such data not only to researchers but also to agencies like the Philippine Atmospheric, Geophysical and Astronomical Services Administration, the National Disaster Risk Reduction Management Committee and the Philippine Institute of Volcanology and Seismology.

In addition, both Diwata 2 and Maya-1 are equipped with amateur radio instruments that can be used as alternative means of communication during disasters when cellular phone infrastructure are either absent or have broken down. Diwata 2 has a ham radio unit while Maya-1 has an automatic packet reporting system that processes radio frequencies.

“Pwedeng gamitin na communication relay sa mga areas na posibleng limited lang ang connectivity. Mga simple na messages ito pero sa panahon ng kalamidad, malaking bagay na kahit



Guevara



Marciano



*On page 9: a replica of Diwata 2 during its public launch at the GT Toyota Center Auditorium (Misael Bacani, UPMPRO); Top: the Philippine PHL-Microsat Team and their Japanese mentors at the Hokkaido University in Japan. (PHL-Microsat Team)*

walang cellphone tower,” said program leader Dr. Joel Joseph Marciano.

There’s also money in satellite development. An April 2018 Cable News Network report estimates that the geospatial analytics industry that uses satellite images of example rice fields to calculate production levels or the number of cars in a supermarket parking lot to predict sales, is currently experiencing a boom. Since 2016, three commercial companies have collectively raised US\$4M in private funding.

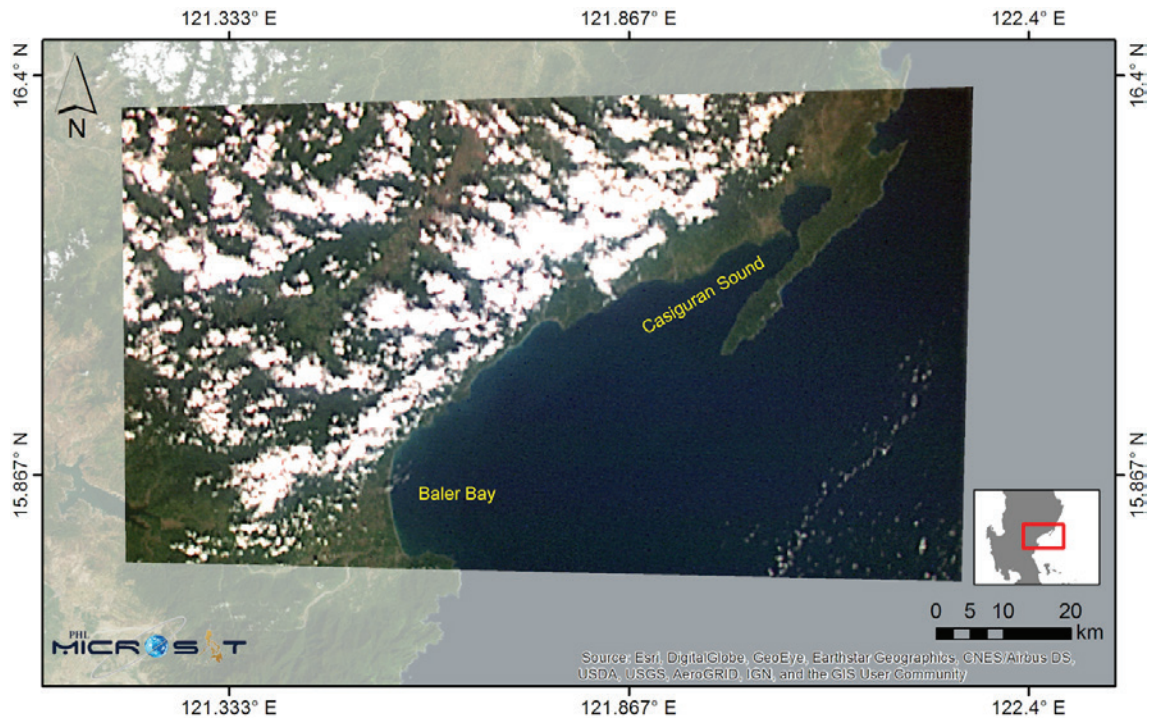
Additionally, the Satellite Industries Association’s 2018 State of the Satellite Industry stated that “revenues remained as the largest industry segment in 2017 and increased to US\$128.7 billion, powered by consumer satellite television,

satellite broadband and Earth observation services [such as Diwata 1, 2 and Maya-1].”

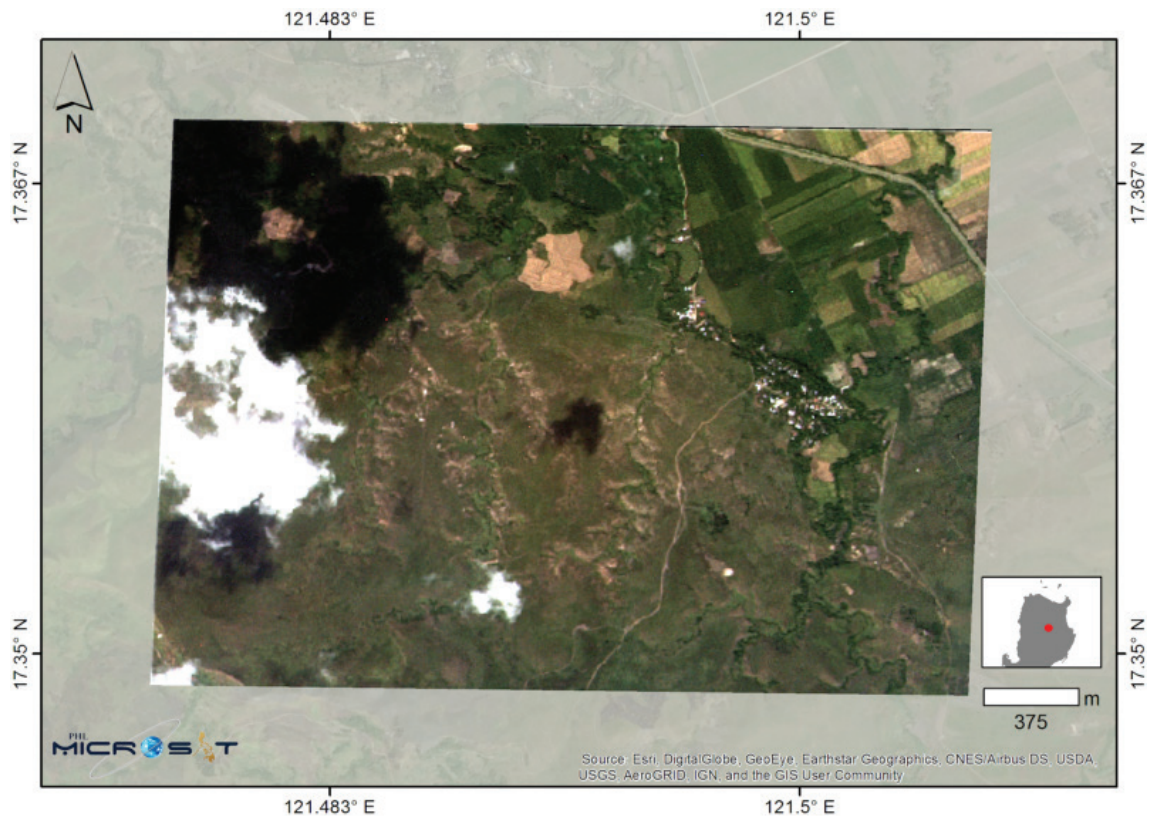
Small satellites which weigh 180 kilograms or less and are smaller than most refrigerators are easier and cheaper to manufacture which makes them great entry points into satellite technology.

The Philippines is not alone in wanting to get into this. Maya-1 is part of a 4-country initiative with Japan, Malaysia and Bhutan called Birds-2 Cube Satellite Project, which will help non-spacefaring countries launch cube satellites.

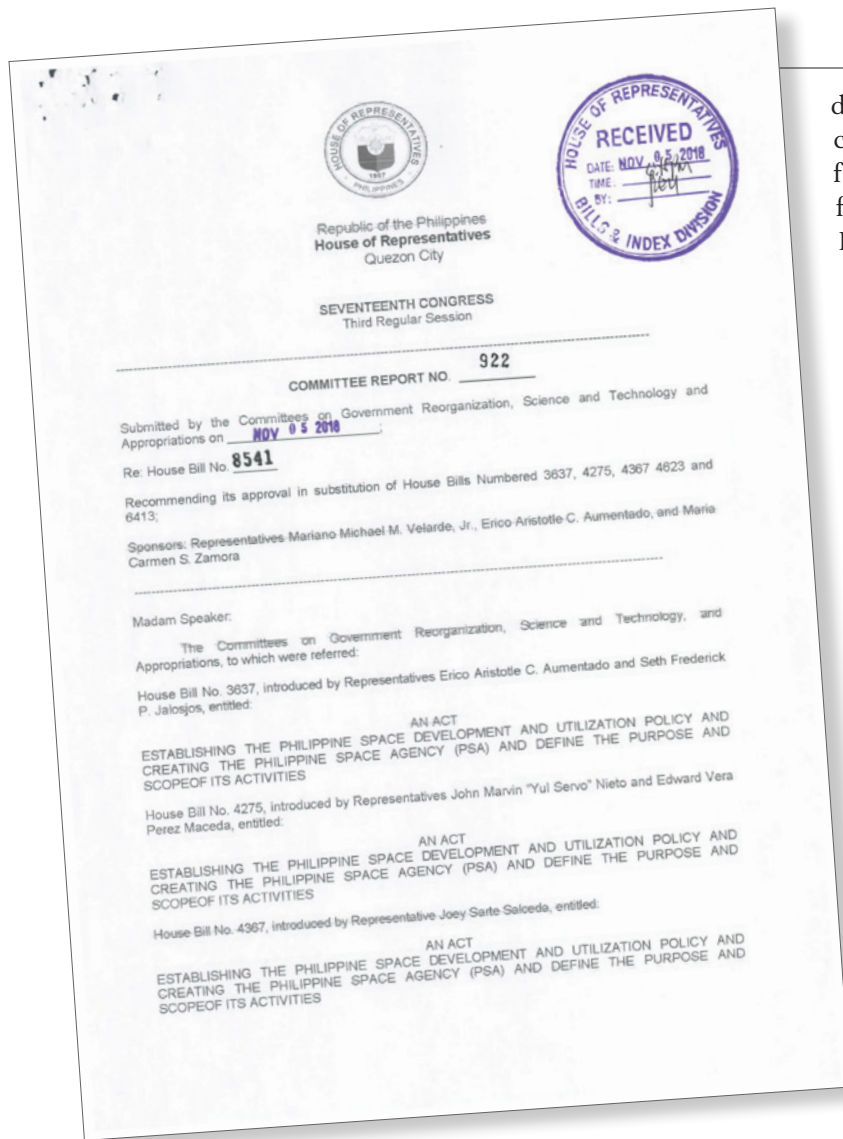
The country is the latest member of the Association of Southeast Asian Nations (ASEAN) to have either existing space programs or have deployed satellites in space. The others are Indonesia, Malaysia, Singapore, Vietnam and Thailand.



Sattelite image of Casiguran, Aurora from Diwata-2, taken on November 15. (PHL-Microsat website)



Sattelite image of Tabuk, Kalinga from Diwata-2, taken on November 14. (PHL-Microsat website)



design and build their own 10x10x10 centimeter nano satellites at a new facility called “University Laboratory for Small Satellites and Space Engineering Systems.”

For two semesters they will be studying under the “Space Science and Technology Proliferation through University Partnerships (STep-UP) Project,” the first graduate track in the Philippines to offer training and scholarships on nanosatellite engineering.

It will include special lectures and hands-on activities on satellite design, development and testing to be conducted at UP EEEL. The activities will be supported through scholarships that will be provided by the DOST Science Education Institute.

STep-UP is the first of four component projects under the Sustained Support for Local Space Technology and Applications Mastery, Innovation and Advancement (Stamina4Space) Program, the successor to PHL-Microsat which aims to “utilize the gains from the PHL-Microsat Program towards further building an enabling environment for interdisciplinary collaboration in the

**PHILIPPINE MADE.** All three satellites were made by Filipino scientists under the tutelage of their Japanese professors and subsequently launched through Japanese rockets.

All this work has garnered awards for one of its project leaders Dr. Gay Jane Perez of the Institute of Environmental Science and Meteorology, who was recently awarded the 2018 ASEAN-US Science Prize for Women.

With the launch of Diwata 2, PHL-Microsat is officially over, but for the team behind it, the journey continues.

Starting January 2019, eight graduate students from inside and outside UPD will be at the UP Electrical and Electronics Engineering Institute (EEEL) learning how to design and build nanosatellites for launch at the International Space Station.

By the program’s end they will be able to

country through engagements with the academe, industry, and other government agencies.”

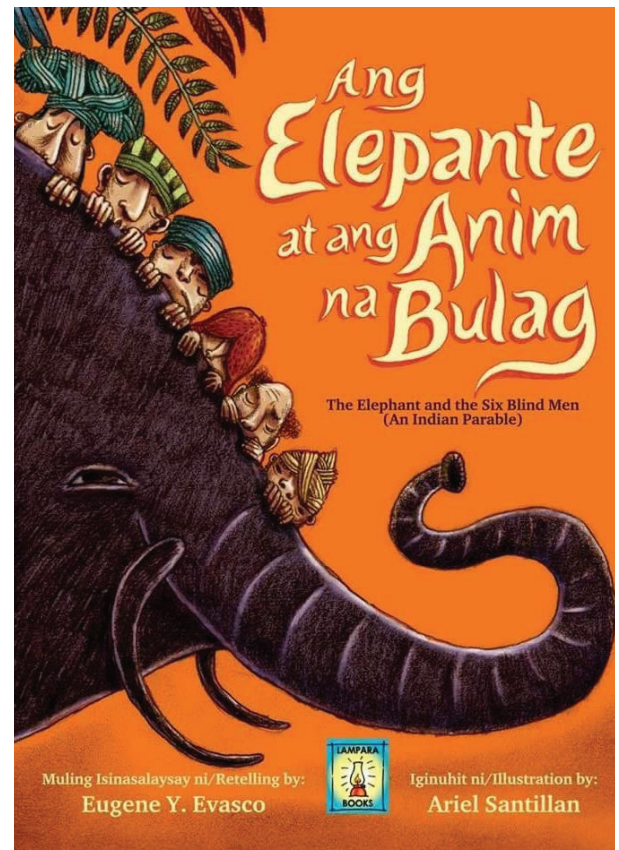
According to project leader and Electrical and Electronics Engineering professor Joel Joseph Marciano, PHL-Microsat and Stamina4Space are the first steps which will eventually lead to the Philippines making all of its own satellites inside the country.

Beyond hardware is the manpower the country is building. Guevara said the 50 scientists and engineers PHL-Microsat has produced will need to be multiplied in the next two to three years, a gap that she hopes the scholarships under Stamina4Space will be able to fill.

“We need to go from 50 to 1,000 (scientists and engineers) in the next two to three years. So, I hope UP and the other universities will continue to partner with DOST in fulfillment of this goal,” she said.



## *Ang aklat pambata sa panahon ng gadgets*



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Ilan lamang ito sa mga kuwentong mula sa mga aklat pambata na itinuturing na isa sa mga tahimik na kaagapay ng mga magulang sa pagpapalaki ng kanilang anak.

Noong 2010, matapos ipakilala sa mundo ni Steve Jobs, ang yumaong tagapangulo at isa sa mga nagtagtag ng higanteng kumpanya na Apple Inc., ang makabagong gadget na tinawag niyang iPad, nagkaroon ng bagong plataporma ang mga publisher sa buong mundo upang mabigyan ng bagong anyo ang mga aklat pambata tulad ng mga picture book application, interactive story books, bidyo, animation, musika, at iba pa. At sa Pilipinas, ilan sa mga lokal na publisher, tulad ng Adarna House (Adarna) at Vibal Publishing House, Inc. (Vibal), ang sumubok gumawa ng mga picture book application para sa iPad o tablet bilang reaksiyon sa mga makabagong teknolohiyang ito.

Ngunit kung inaakala ng karamihan na papalitan nito ang pisikal na anyo ng mga aklat pambata, ayon kay Dr. Eugene Y. Evasco, propesor ng Departamento ng Filipino at Panitikan sa Kolehiyo ng Arte at Literatura at kilalang manunulat, editor, tagasalin, at kolektor ng mga aklat pambata, ang nakamamangha nito, “Sa Pilipinas at sa buong mundo, hindi iyon mabenta. Babalik pa rin talaga ang mga mambabasa sa print. Mas gusto nilang bumuklat ng aklat. Kaya tuwang-tuwa kami [mga publisher at manunulat] na babalik pala sa print,” aniya.

Sa katunayan, sa National Book Store (NBS) ay may sariling seksiyon para sa lokal at imported na mga aklat pambata—mula sa mga kuwentong pambata hanggang sa mga aklat ng impormasyon para sa mga bata. Karamihan sa naka-display ay inilimbag ng mga kilalang publishing house sa Pilipinas tulad ng Adarna, Anvil Publishing, Lampara Books, OMF Literature at Vibal.

### **MGA KUWENTONG PAMBATA SA PILIPINAS.**

Binanggit ng yumaong Rene O. Villanueva, isang batikan at kilalang manunulat ng mga kuwentong pambata sa Pilipinas, sa kanyang artikulong “Pagsulat ng Kuwentong Pambata” na nailathala noong Hunyo 23, 2014 sa Philippine Literature Portal, na ang kuwentong pambata ay iyung mga kuwentong na “sadyang kinatha para sa mga batang mambabasa.” Ang mga kuwentong ito ay maaaring nakasulat sa Filipino o Ingles.

At kapag sinabing bata, batay sa depinisyon ng United Nations Children’s Fund (UNICEF), sila iyung edad mula 18 hanggang pababa.

Bago pa nauso ang mga iPad, iPhone, android phone, Xbox, programa sa cable, Netflix at Cartoon Network, namulat ang karamihan sa mga batang Pinoy sa mga kuwento nina Maria Makiling at Juan Tamad.

**N**ariyan din ang mga kuwento sa Biblia tulad ng Noah’s Ark; naglakbay ang imahinasyon sa mga pakikipagsapalaran ni Pilandok; natuto ng gintong aral mula sa alamat ng prutas tulad ng pinya, saging at lanzones, o nakipagbunyi sa karera nina Pagong at Kuneho. May ibang mga bata naman na lumaki sa mga kuwento ng The Walt Disney Company tungkol sa mga prinsesa tulad nina Princesa Aurora, Snow White, Cinderella, at iba pa.



Sa kasalukuyan ay napakalakas umano ng benta ng mga kuwentong pambata lalo na iyung tungkol sa mga alamat at re-telling dito sa Pilipinas. Ang re-telling ay mga kuwento na muling isinusulat tulad ng mga epiko o kuwento mula sa Biblia.

Ayon kay Evasco, “Malakas pa rin talaga ang pagkukuwento ng mga karaniwang karanasan ng mga bata mula sa middle class na pamilya, sa urban contemporary middle class tulad ng phobia, pagpunta sa dentista o sa doktor [...] at pagtalakay sa iba’t ibang kadalasang sakit ng mga bata.”

Aniya, ang mga aklat na ito ay hindi lang tumatalakay sa mga karaniwang sakit ng mga bata kundi malaking tulong para turuan ang pamilya o mga magulang kung paano bibigyan ng lunas ang mga ito.

“Iyung mga bata, tingin ko ay handa naman ‘yang mga iyan sa pagbabago. Ang mga bata ay laging naghahanap ng bago. Ang problema nga lang ay mga magulang na tingin nila ay hindi ito kaya ng bata. Masyado nilang ina-underestimate ang mga bata. Dahil nga sa desisyon ng mga magulang, iyon lang ang palaging pinapabasa,” ani Evasco.

Ngunit, bagama’t malakas ang kita ng ganitong uri ng mga kuwentong pambata “Nakita ng mga publisher na kailangan ding tugunan nila iyung pangangailangan

ng bata. Hindi lang puro ganyan,” ani rin niya.

Nakausad na ba sa nakasanayang dyanra (genre) ang mga kuwentong pambata sa Pilipinas?

Kasabay ng patuloy na pagpapalaot ng Pilipinas sa makabagong panahon at modernisasyon, sumabay na rin umano sa mga pagbabagong iyon ang mga paksa ng mga kuwentong pambata sa Pilipinas.

Ayon kay Evasco, sa kasalukuyan ay dumarami na ang mga publisher sa Pilipinas na lakas-loob na naglilimbag ng mga kuwentong pambata na may mas matapang, radikal at bukas na mga paksa taliwas sa mga nakasanayan ng dyanra.

Sa katatapos lang na The 39th Manila International Book Fair (MIBF), na ginanap mula Setyembre 12 hanggang 16, kabilang sa mga ibinenta ay ang iba’t ibang klase ng mga lokal at imported na aklat pambata na hindi na nakatuon lang sa nakasanayang uri ng mga kuwentong pambata.

Sa obserbasyon ni Evasco, dumarami na rin ang mga ibinibentang mga pambatang board books at nobelang pang-young adult.

“Nakikita kong trend ngayon ay naglalabas na sila ng kuwentong pambata o mga aklat pambata para sa mga sanggol, mga edad 0-4. Ito ‘yung board books, maliliit na libro na matitigas ang mga pahina



na kasing kapal ng karton na kakaunti ang mga salita pero tumatalakay sa ano ba ang kapaligiran ng bata; at concepts na kailangang matutunan ng bata tulad ng kulay, bilang, at alpabeto,” aniya.

Dumarami na rin umano ang mga tumatangkilik sa kuwentong para sa mga middle-grade (mula edad 11 hanggang 16 taong gulang) at pang-young adult (mula edad 16 hanggang 21 taong gulang) dahil agresibong pagsusulong dito ng mga publisher, tulad halimbawa ng nobelang ‘Moymoy Lulumboy: Ang Batang Aswang’ ni Segundo D. Matias Jr. na inilimbag ng Lampara Books.

“Kasi dati, pag sinabi mong children’s literature, panitikang pambata sa Pilipinas, ang alam natin, mga picture books. Pero pagkatapos grumadweyt ang bata doon, ano na ‘yung susunod nilang babasahin? Kaya iyon ang nakita nila. In other words, naglabas sila [ang mga publisher] ng maraming young adult novels,” ani Evasco.

Higit sa lahat, nagiging bukas na rin aniya ang mga publisher sa paglilimbag ng mga radikal na maiikling kuwentong pambata tulad ng mga paksa tungkol sa diktadura, LGBTQ at child abuse. Halimbawa nito ay ang Isang halimbaw inilabas ng Lampara Books na “Antolohiya ng mga Radikal na Kwentong Pambata,” na inedit ni Evasco at Matias Jr. at iginuhit nina Dominic Ochotorena at Ivan Reverente; at ang inilathala ng Adarna House na “Ito ang Diktadura” ni Equipo Plantel na iginuhit ni Mikel Casal at “Ang Lihim ni Lea” ni Augie Rivera at iginuhit ni Ghani Madueño.

“Hindi na nagpapadikta ang mga publisher ngayon sa kung ano ang sasabihin ng mga magulang at eskuwelahan. Halimbawa, sa Adarna (House) ulit, naglabas sila ng libro, ang ‘Ito ang Diktadura,’ na

tungkol sa diktador. Siyempre, patama ito sa mga Marcos. Bakit sila matatakot? O sige. Kung lahat tayo ay matatakot, walang mangyayari sa panitikang pambata natin,” ika ng ni Evasco.

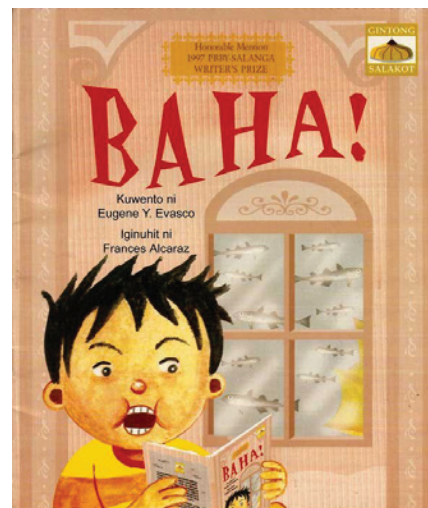
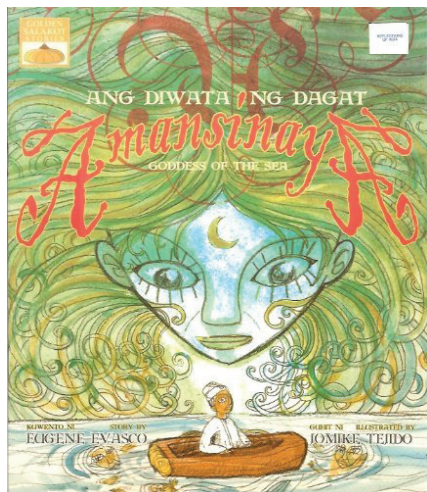
Malaki rin ang pasasalamat ni Evasco na hindi apektado ng teknolohiya ang mga aklat pambata ngunit, nakita rin niyang ang magandang nauuso sa buong mundo ay ang paggamit ng onlayn na aplikasyon tulad halimbawa ng Epic! Books for Kids < <https://www.getepic.com/app>> at Buri Books < <https://www.buribooks.com/>> na sa kaukulang halaga ay nagkakaroon na ng access ang mga mambabasa sa libo-libong aklat pambata tulad ng picture books, concept books at chapter books na likha ng mga Filipino at dayuhang awtor.

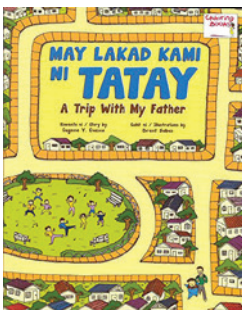
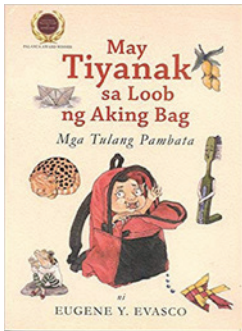
**BESTSELLER.** Samantala, itinuturing na bestseller ang kuwentong pambata sa na isinulat ng Filipinong awtor dito sa Pilipinas, kung sa loob ng isang quarter o tatlong buwan ay makakaubos ito ng 1,500 kopya at kung sa loob ng isang taon ay nai-reprint ito ng isa hanggang tatlong beses, ayon kay Evasco.

Dagdag pa niya, sa NBS ay magkahiwalay ang listahan ng bestsellers ng mga aklat na isinulat sa Ingles at Filipino kung kaya’t hindi masabi kung naka-penetrated na ang gawang Filipino sa listahang ng mga bestseller sa buong Pilipinas.

Sa kasalukuyan, hindi pa umano nakikita ni Evasco na aabot sa lebel ng kasikatan ng mga librong “Harry Potter” ni J.K. Rowling.

“Kasi wala tayong reading culture. Halimbawa sa MIBF, andaming tao. Pero kung ikukumpara mo iyon sa porsiyento ng dami ng tao sa Pilipinas, maliit pa ‘yan. Pumunta ka sa bahay-bahay at isa-isahin mo kung sino ang may children’s books, ipapakita





sa'yo dalawa o tatlo, mga luma pa. Hindi lahat ay nag-aantabay sa children's books," ani Evasco.

Dagdag pa niya, mas pinipili rin ng mga magulang na tangkilikin bilhin ang mga librong nakasulat sa wikang Ingles sa kaisipang mas maganda ito kumpara sa mga kuwentong pambata sa wikang Filipino.

**WISH LIST.** Sa kasalukuyan, umaabot ng 85 hanggang 150 kada taon ang naililimbag na mga bagong aklat pambata sa Pilipinas. Ngunit ayon kay Evasco, medyo humina pa nga raw ito dahil noong nakaraang tatlong taon ay umaabot pa ito ng 200-300 na bagong aklat kada taon.

"Humina lang ngayon dahil sa pork barrel scam. Pre-pork barrel, di ba nabibigyan ang mga local government ng malalaking pondo tapos ang mga pondong iyong ay inilalaan sa pagbili ng children's book sa communities at public libraries. Ngayon, nawala na iyon kaya wala na ring umo-order," ani Evasco.

Sa mga hamong kinakaharap ng mga publisher at manunulat ng mga kuwentong pambata, binanggit ni Evasco ang ilan sa kanyang hiling upang mapaunlad ang aklat pambata sa Pilipinas ay: 1) magkaroon ng literary agent ang mga Filipinong manunulat sa bansa; 2) magkaroon ng tiyak na bayad ang mga manunulat at ilustrador; 3) palakasin ang sistema pampublikong silid-aralan sa bansa; 4) mas dumami ang mga propesyunal na reviewer ng mga aklat pambata sa Pilipinas; 5) mabigyang-pansin din ang ibang uri ng panitikang pambata sa bansa tulad ng mga pambatang tula, dula, nonfiction at informational books.

Dagdag pa ni Evasco, kailangan din isulong ang pagkakaroon ng diversity (pagkakaiba-iba) ang mga aklat pambata sa Pilipinas.

Kung sa Estados Unidos ay kasalukuyang isinusulong ang #weneeddiversebooks o mga aklat na bukas sa pagkakaiba ng lahi, kulay, kultura at wika, masayang ibinalita ni Evasco na sa Pilipinas ay may pagsusumikap na rin ang mga publisher at manunulat na makapaglabas ng mga ganoong klase ng aklat.

"Ang trend na ngayon, tayo ay mayroong aim for diversity. Diversity ng religion, ethnicity, class at sexuality. Kaya nga 'yung MIBF, tatlong libro ang may kinalaman sa homosexuality. Diversity. Hindi na puro Catholic faith, patriarchal, heterosexual at hetero-centric. Di na tayo ganoon. Hindi iyon ang Filipino. Ang Filipino ay diverse," ani Evasco.

views expressed in this presentation are the personal opinion of the author and do not necessarily represent the position of the Philippine Department of Education.





# MAP RIGHTS WRONGS: The 1734 Murillo Velarde map

IMAGES BY Leonardo A. Reyes



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## China never controlled the South China Sea (West Philippine Sea) at any time in history, as proven by the 1734 Murillo Velarde map.

**A**ccording to Supreme Court Associate Justice Antonio Carpio, the map invalidates China's Nine-Dashed Line and claims of ownership of the South China Sea for over "2,000 years."

Carpio delivered the keynote address at the opening of the 16<sup>th</sup> Philippine-Spanish Friendship Day Conference on Oct. 4 at the auditorium of the National Institute for Science and Mathematics Education Development (NISMED). The 2-day conference had the theme "Mapping Spaces and Identities in Spanish Colonial Philippines."

**OFFICIAL.** Printed in Manila, the 1734 Murillo Velarde map by the Jesuit priest Pedro Murillo Velarde, was the Spanish government's official map of its territories (both terrestrial and aquatic) in the Philippines. Called the mother of all Philippine maps and widely copied by Filipino and European cartographers, the map showed the maritime routes from Manila to Spain and Mexico and other Spanish territories to the New World, something very vital to the Galleon Trade, the first global trade by sea. According to the National Library of Spain, the map was drawn by Filipino Francisco Suarez and engraved by another Filipino, Nicolas dela Cruz Bagay.

"The map is so detailed that when a magnifying glass is used, one can see all the towns and pueblos of the Philippines in 1734," Carpio said. He was part of the team that argued before the Permanent Court of Arbitration (PCA) at The Hague in the Netherlands on the Philippines' claim on the Sea.

Included in the 1734 Murillo Velarde map are the Panacot shoal (Scarborough Shoal) and the Los Bajos de Paragua (Spratly Islands or Spratlys). It was one of the 270 ancient maps presented at the PCA hearings contesting China's claim over the South China Sea (West Philippine Sea) that began in July 2015. Among the other maps presented were ancient maps of China throughout the Chinese dynasties, Philippine ancient

maps and maps of Southeast Asia and European maps of Asia.

China's historical claim that it owned the South China Sea since 2,000 years ago (ed: roughly around the time of the Han Dynasty which began from 206 BC - 220AD) was refuted by Carpio and the Philippine team of experts. He said none of the ancient maps showed that China owned the contentious waters nor the Spratly islands and the Scarborough Shoal. The ancient Chinese maps' southernmost territory was Hainan.

"China in its earliest dynasty, from the Song and fast forward to their last dynasty, the Qing dynasty, and all their maps uniformly show that their southernmost territory is Hainan. So we presented this to the Tribunal. If you superimpose all the maps from the Song to the Qing dynasty, to over almost a thousand years, the southernmost territory of China was Hainan," he said.

**NO HISTORICAL CLAIM.** The Nine-Dashed Line is the demarcation line China used to claim the major part of the South China Sea. China maintains it owns any land or territory contained within the line. Among the territories claimed are the Spratlys and Scarborough shoal.

The demarcation line was formerly 11 dashes. In his book "The South China Sea Dispute: Philippine Sovereign Rights and Jurisdiction in the West Philippine Sea," Carpio explained that in December 1947, the "Kuomintang Government of China adopted the Nine-Dashed Line claim" that was embodied in a map "Location Map of the South Sea Islands' released within China in February 1948, with 11 dashes forming a broken U-shaped line covering almost the entire South China Sea."

Carpio further explained the map indicates a claim to the islands and not the sea. In addition, there was no basis how the 11 dashes came about nor what its coordinates were. China claimed the islands enclosed in the 11 dashes, among them the Nansha Islands (Spratlys). Scarborough Shoal which is called Huangyan Island or its previous name, Min'zhu was not included.

"China was silent on any claim to the surrounding waters," Carpio said.

In 1950, China under communist rule removed two dashes in the Gulf of Tonkin without any explanation. This was the beginning of the Nine-Dashed Line.

On July 12, 2016, PCA tribunal ruled China had no evidence that historically it had exclusive control over the waters or resources of the South China Sea.



*Carpio and Spanish Ambassador to the Philippines Jorge Moragas Sanchez (second and third from left) with Velarde (right) and other international guests at the UP-NISMED Auditorium.*

**HISTORY WILL CORRECT THEM.** Carpio aims to right this false claim of ownership, almost making it his personal crusade, reasoning that any person believing thus will know the truth because “History will correct them.”

The associate justice conducts lectures here and abroad to let everybody know about the historical demarcation lines concerning the South China Sea and of the Scarborough Shoal and Spratlys as Philippine territories.

Some members of the international community, even other Filipinos, are currently inclined to believe otherwise, particularly when Chinese Foreign Minister Wang Yi delivered a speech at the Center for Strategic and International Studies, the United States think tank in Washington, on Feb. 25, 2016. In his speech, he said the Treaty of Paris of 1898 proves the Scarborough Shoal and the Spratlys are not Philippine territories because they are all outside the Treaty Lines.

The Treaty of Paris of 1898 was an agreement between Spain and the United States which included among others, the United States’ payment of US\$20 million to Spain to cede the Philippines to them. In the Treaty, there were areas in the 1734 map of Murillo Velarde that Spain failed to cede to the United States, including Scarborough Shoal and the Spratlys.

Nevertheless, Carpio argued the existence of the Treaty of Washington of 1900.

“After signing the Treaty of Paris of 1898, the Americans came here and they discovered there were many islands outside the Treaty lines. So they went back to the Spaniards and asked the Spaniards to sign a Treaty clarifying the Treaty of Paris and that would include all these other islands outside of Treaty Lines. The Spaniards refused to sign,” Carpio said. He continued, “So the Americans told them, ‘On top of the US\$20 million that we paid you, we will pay you an additional US\$100,000 to sign a second Treaty to make the clarification.’ The Spaniards said, ‘Yes, we will sign!’”

According to The Treaty of Washington of 1900, “Spain relinquishes to the United States all title and claim of title, which she may have had at the time of the conclusion of the Treaty of Peace of Paris, to any and all islands belonging to the Philippine Archipelago lying outside the lines described in Article III of that Treaty and particularly to the islands of Cagayan Sulu and Sibutu and their dependencies, and agrees that all such islands shall be comprehended in the cession of the Archipelago as fully as if they had been expressly included within those lines.”

Therefore, Carpio said, with the Treaty of Washington of 1900 amending the Treaty of Paris of 1898, the Philippines can claim the Spratlys and Scarborough Shoal.

**COSMOPOLITAN MANILA.** Not only did the Murillo Velarde map debunk China's historical narrative of South China Sea (West Philippine Sea) ownership, it also showed an 18th century Manila that was a rich cosmopolitan city, inhabited not only by the locals but foreigners from different parts of the globe and was a key city of the Galleon Trade.

The associate justice said Father Pedro Murillo Velarde once wrote that if one stands on a bridge in Manila, one can see people from all parts of the globe, from Europe, Africa, Asia and North America.

The Murillo Velarde map was originally engraved in eight copper plates and had on its sides a total 12 vignettes on the people and landscape of 18th century Philippines.

The whole 1734 Murillo Velarde map is engraved on eight copper plates. The map itself is divided into four copper plates, two on each side. Each of these copper plates bear three vignettes. Eight vignettes depict people of varied ethnicities living in the country, and of flora and fauna found in the country. There is also a map of Samboagan (a city in Mindanao), a map of the port of Cavite — for the port was vital in building galleons at the time; a map of the island of Guajan (Guam) and a map of Manila. The vignettes clearly depicted how important 18th century Philippines was in the Galleon Trade, and largely, to the Spanish empire.

The crucial role of the 1734 Murillo Velarde map in the Philippines' case against China's claim over the South China Sea (West Philippine Sea) is but one example of the importance of ancient maps in understanding history and present-day claims and situations.

"Ancient maps are not merely decorative items far removed from present day reality. Ancient maps can come alive to help settle contentious present-day disputes among states. Individually, ancient maps contain errors and omissions because they do not have a satellite to get the correct configuration, but taken collectively over a period of time... ancient maps point to basic historical truth and expose greater than historical bias," Carpio said.

**UPD'S OWN COPY.** At the conference, UP Diliman (UPD) received a facsimile of the mother of all Philippine maps. Its donor was information

technology entrepreneur Mel Velarde, chair of the Asian Institute of Journalism and Communication.

"I'm here with a simple mission to give you a gift of the official replica of the 1734 Murillo Velarde map. My mission was to buy the map at an auction in London for you (the youth) because Justice Carpio wanted the youth to be able to see it and understand how blessed and rich our country is," he said.

Along with the official replica, Velarde brought the original map at the UPD conference for public viewing. He purchased the map for P12 million in an auction at London Sotheby's in 2014. In 2017, Velarde donated the map to the National Museum.

The original map once belonged to the Duke of Northumberland. It was one of a number of maps the University of Cambridge produced as fresh prints from the copper plates of the 1734 Murillo Velarde map. The Duke of Northumberland of the late 18th century bought a copy of the map and brought it to his residence at Alnwick Castle. The Castle has been used as a setting to many films and television series, and may be familiar to Potterheads for this was the interior and exterior of Hogwarts of "Harry Potter" films.

There at Alnwick Castle the map remained at its basement for over 200 years. In 2014, the current Duke of Northumberland announced the sale of family heirlooms that included the celebrated map.

The official replica is currently at the UPD Department of History and its public viewing is yet to be set.





# *Manila to London and back:* THE STORY OF A MAP'S TRAVELS

The journey of the mother of all  
Philippine maps back home began four  
years ago.

BY **Mariamme D. Jadloc**  
ILLUSTRATION BY **Brent Antigua**



**I**n 2014, an information technology entrepreneur was on the phone bidding in an auction in London, England, more than 10,700 km. away from Manila.

Eventually, he won the bid for the 1734 Murillo Velarde map or the Carta Hydrographica y Chronographica de las Islas Filipinas, an heirloom of the 12th Duke of Northumberland, Ralph Percy.

After winning the map at the London Sotheby's, Velarde sent a copy to the team that would argue before the Permanent Court of Arbitration (PCA) at The Hague in the Netherlands on the Philippines' claim on the South China Sea. The team included Supreme Court Associate Justice Antonio T. Carpio

The 1734 Murillo Velarde map played a crucial role in winning the Philippines' case against China's claim over the South China Sea (West Philippine Sea). This was on July 12, 2016. (see Map rights wrongs: the 1734 Murillo Velarde map).

The Philippines now has in its public collections the country's first and most important scientific map, thanks to the benevolence of Mel Velarde, who donated to the National Museum the map he bought at London Sotheby's for US\$273,000 (P12 million).

How did the Murillo Velarde map of 1734 end up in the United Kingdom?

An official map of the Spanish empire, it was commissioned by Philippine Governor General Fernando Valdes y Tamon (1729-1739) and was designed by Jesuit priest Pedro Murillo Velarde, drawn by Francisco Suarez and engraved by Nicolas dela Cruz Bagay in eight copper plates. Made in Manila, the map shows the maritime routes from Manila to Spain and to New Spain (Mexico and other Spanish territories in the New World), an important route for the Galleon Trade.

In the conflict between England and France from 1756 to 1763 (known as the Seven Years War), the Philippines found itself embroiled in the battle when Spain allied itself with France. As a territory of Spain, Manila was vital to the Spanish empire and was very much on the British' radar.

Appearing in Manila Bay and taking the Spanish forces by surprise on Sept. 23, 1762, the British fleets finally captured Manila on Oct. 6, 1762 after 12 days of fighting. In less than two days, Manila's wall was breached, its citizens raped, tortured and killed, and its treasures looted.

Among the looted artifacts was the set of eight copper plates of the 1734 Murillo Velarde map.

Brigadier General William Draper, the commander of the British fleets, brought these copper plates to London and donated them

to Cambridge University, his alma mater. The University then ran several new prints of the map.

One of these maps was acquired by the then Duke of Northumberland who brought it home at Alnwick Castle. There, it stayed for more than 200 years.

Sadly, the copper plates were later melted by the British to print their admiralty charts.

**LOT #183.** In May 2012, a huge portion of the properties of the present day Duke of Northumberland was damaged by a severe flood. Repairing the damage entailed millions of pounds. By 2014, the Duke announced the sale of family heirlooms to raise funds to cover the cost of repairs. Among those to be auctioned off at Sotheby's was the 1734 Murillo Velarde map estimated between US\$32,000 to US\$48,000.

The map, Lot #183, was put up for bid at the auction house and was eventually won by Mel Velarde at the price of US\$273,000.

Almost three years after the auction, the celebrated map came home on Apr. 29, 2017. It was formally turned over to the Philippine government on June 12, 2017, the country's 119<sup>th</sup> anniversary of Independence from Spain.



Velarde

# SIGNS OF MENTAL HEALTH DISORDER

## NOTICEABLE CHANGES IN BEHAVIOR:

**PERSONALITY**  
(e.g. from talkative to quiet)



**PHYSICAL ATTRIBUTES**  
(e.g. vacant stare, red eyes, hygiene)



**MANNERS**  
(e.g. incoherent talk, disrespectful behavior)



**HOURS SPENT IN AN ACTIVITY**  
(e.g. change of time, lesser or greater time)

## OTHER PEOPLE TALK ABOUT THE PERSON

- Present complaints
- Express concerns



## PERSON SHARES PROBLEM

- Written notes
- Social media
- Face-to-face



# MENTAL HEALTH IN UP



## WHAT TO EXPECT FROM A CONSULTATION WITH A MENTAL HEALTH EXPERT?

- Clarity of mind on presenting situations
- Possible options to take are formulated
- Life skills being taught and practiced

## OFFICES THAT CAN HELP

### • OFFICE OF COUNSELING AND GUIDANCE

- Room 310, Vinzons Hall
- 📞 981-8500 local 4501 or 4502
- ✉️ [ocg.updiliman@up.edu.ph](mailto:ocg.updiliman@up.edu.ph)
- f [fb.com/ocg.upd/](https://fb.com/ocg.upd/)

#### Counseling Schedule:

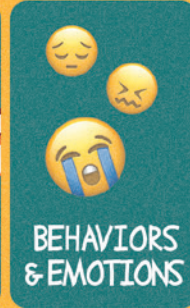
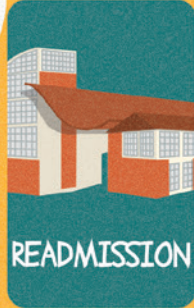
- Vinzons Hall  
Monday to Friday (8AM- 5PM)
- Ipil Residence Hall  
Mondays to Thursdays  
(2PM- 5PM)



# MENTAL HEALTH DILIMAN

# 5

## MAJOR MENTAL HEALTH CONCERNS OF STUDENTS WHO SEEK COUNSELING FROM OCG



## HOW CAN YOU HELP?

### • KEEP THEM SAFE

if needed, hospitalize



### • ACTIVE LISTENING

be intentional, silence



### • MAKE REFERRALS

determine risk factors



### • UPD PSYCSERV

(PSYCHO-SOCIAL SERVICES)

- Room 209 B, Lagmay Hall
- 0916-7573157
- psycserv.upd@up.edu.ph

Counseling Schedule:

Monday to Friday  
(8AM- 5PM)

### • UNIVERSITY HEALTH SERVICE

Dr. Dinah Nadera  
(Part-time Psychiatrist)  
Public Health Department  
981-8500 local 2709

Counseling Schedule:

Monday - Tuesday (8AM- 12NN)  
Wednesday - Friday (1PM- 5PM)

# UP



# Mental health in UPD

ILLUSTRATION BY **Brent Antigua**

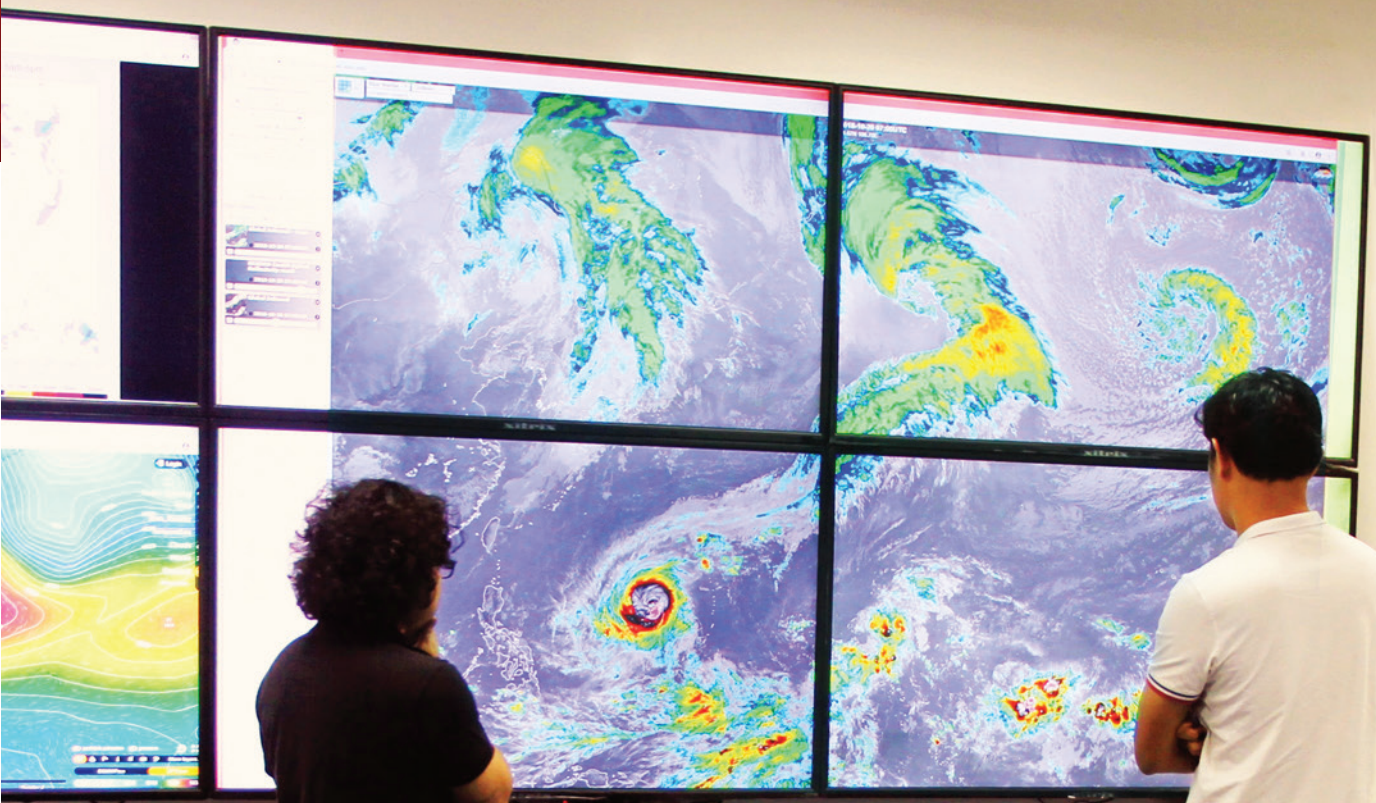
The Republic Act (RA)11036 or Mental Health Act, was finally signed into law by Philippine President Rodrigo R. Duterte on Jun. 20.

**T**he World Health Organization (WHO) defined mental health as “a state of well-being in which the individual realizes one’s own abilities and potentials, copes adequately with the normal stresses of life, displays resilience in the face of extreme life events, works productively and fruitfully, and is able to make a positive contribution to the community.”

RA 11036 is “an act establishing a national mental health policy for the purpose of enhancing the delivery of integrated mental health services, promoting and protecting the rights of persons utilizing psychiatric, neurologic and psychosocial health services,

appropriating funds therefor, and for other purposes.” In response to the newly enacted law, UP Diliman through the Office of the Vice Chancellor for Student Affairs, together with the Office of Counseling and Guidance (OCG), UP Psychological Service (PsyServ) and University Health Service, continue to strengthen its programs to help the students, faculty and students cope with their mental health problems.

From January to June 2017, OCG identified the top five major health concerns of students who seek counseling from their office. These are: re-admission; academic performance; study habits and motivation; behaviors and emotions, and family relations.





# How's the weather?

Nestled in the 30-hectare area of the UP National Science Complex, there at the southeast portion of the UP Diliman (UPD) campus is the Synoptic Laboratory (SL) of the College of Science, Institute of Environmental Science and Meteorology (IESM).

**T**he SL is about 50 sq. m., an average classroom, really. However, it has been a silent witness of sorts to many university decisions because of weather conditions affecting Metro Manila.

The Laboratory's analyses based on the satellite information and numerical models have been used several times, the most recent was the decision of UPD Chancellor Michael L. Tan to suspend classes and work on Aug. 13 due to continuous heavy rains triggered by Habagat or the Southwest Monsoon.

The SL was also tasked to monitor the weather situation during the UPD General Commencement Exercises in 2017 and 2018.

*On page 29: The IESM Synoptic Laboratory (SL)*

Dr. Lemuel Aragon, IESM director, said Tan requested and sought the assistance of SL personnel to come up with a UPD forecast for UP officials to decide whether the ceremonies will push through in the University Amphitheater or will be moved to a covered venue.

“Our disclaimer there was it was for UPD forecast. A week before the graduation, we were monitoring daily, but the day before the graduation we were doing it every three hours, and in the last six hours, we were doing it every hour,” Aragon said.

Thanks to the SL personnel’s efforts, university officials decided to not change the graduation venue.

In operation since 2017, the SL is primarily for teaching future meteorologists.

“The laboratory, with all its equipment can do visualization of a synoptic scale which is very important in meteorology,” said Prof. Gerry Bagtasa, PhD, the SL Faculty-in-Charge.

The Department of Atmospheric Sciences of the University of Washington defines synoptic scale as “concerned with analysis and prediction of large-scale weather systems, such as extratropical cyclones and their associated fronts and jet streams.” Usually the horizontal length scale or dimensions ranges from

several hundred kilometers to thousand kilometers.

“Even if the storm is still distant, for example in Taiwan, weather forecasters will know if it’s going to rain here. How do they know that? By looking at the synoptic environment, or the overall condition of a certain area,” Bagtasa said.

The Laboratory is so vital in studying the relationship of atmospheric circulation and surface environmental conditions and weather forecasting it has been actually dubbed as the weather “war room.”

Located at the first level of the well-ventilated 3-story (with roof-deck) IESM modern building, SL is used for meteorology, oceanography and climate graduate courses like Meteorology 203 – Methods of Analytical Meteorology and Oceanography, Meteorology 212 – Climate Monitoring and Prediction, Meteorology 222 – Satellite Meteorology and Meteorology 234 – Numerical Weather Prediction.

The Laboratory also provides access to weather-related data by combining analyzed weather observations like soundings, satellite images, radar images and numerical parameters with conceptual models in the synoptic scale (~300-1000 km and duration of 1-10 days) to examine weather condition.

Enabling the laboratory to achieve its functions are



Classes and work at UPD were suspended on Aug. 13 due to inclement weather that affected Luzon, thanks to the SL’s weather analyses.



UPIESM six TV monitors (acting as a hyperwall) used for analyzing and displaying synoptic data; 11 interconnected workstations: 10 for students' use and one as main computer connected to the TV monitors; meteorological

Bagtasa

software (MatLab, R, ArcGis, Python, Weather Research Forecasting Model, etc.) and two iPads used for drawing synoptic charts.

Bagtasa, an atmospheric physicist, said all collected data (temperature, humidity and wind strength) are used in conjunction with numerical models to come up with a forecast, "Sometimes weather forecasters use past typhoons that have similar conditions as a reference to the one they are presently monitoring, and come up with a near-accurate prediction of the storm track."

**TRAINING CENTER.** The Laboratory is capable of weather forecasting for the whole country. However, Bagtasa said PAGASA (Philippine Atmospheric Geophysical and Astronomical Services Administration) is the mandated and authorized institution to do the weather forecasting in the country.

The SL's foremost objective is for teaching purposes. Its main goal is to train students to

appreciate and understand the concepts, theory and science of meteorology and eventually do their own visualizations of the synoptic environment, to better explain it to the people. As part of their coursework, students are taught to determine the possible track of a typhoon.

Aragones added that IESM, particularly SL, wants to be specific or more focused to the UPD campus and in other UP campuses. He said CS Dean Perry S. Ong envisions UPIESM-SL to be on top of the situation if there are impending typhoons to hit other UP constituent universities.

"Through our analysis, forecast and recommendation the UPD chancellor would communicate with the chancellors and officials of other campuses about the possible impact or threat of an imminent typhoon," Aragones said.

As a service to UP community and its immediate vicinity, SL is extending its effort beyond the weather projection. "We are focusing more on the effect of typhoons—wind strength, amount of rain fall and whether they will bring heavy rains that will cause flooding particularly in Metro Manila where UPD is located," said Bagtasa.

In 2010 IESM Meteorology program was recognized as a Regional Training Center for the World Meteorological Organization for Region V or for Asia and Pacific. The program was reconfirmed this year.

As such, true to its title, IESM Meteorology program through the SL is primed to continue providing the Philippines with weather analysts whose training and background are anchored in academic and scientific methods/procedures.



Bagtasa conducting a lecture at the SL.