# *Stars of Portent: Comets and Disasters in the Philippine Past, 1566–1910*

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This paper shows how the perceived relationship between comets and disasters developed and deepened among the Philippine communities through time. Lexicographic data show how indigenous Filipinos thought about comets and their passing, while ethnographic and historical accounts provide a glimpse to the knowledge processes which put into reason these cometary perceptions and predictions. Ancestral tradition, historical experience, and generations of observations can be cited as causes that established and strengthened this mentality. The arrival of Spaniards in the sixteenth century, nevertheless, made these perceptions more durable and tenacious. As shown in select historical accounts, Spanish priests and soldiers possessed the popular lore of the comet-fearing West. Gradual permeation of modern science in the nineteenth and twentieth centuries combatted these "primitive superstitions" and "popular apprehensions" through an army of scientists, scholars, and schoolbook writers. However, comet astrology persisted among the Filipinos, as seen in print and folklore. The historical period covered is from 1566, when a comet was sighted in Cebu, to 1910, the year when the Halley's Comet graced the Philippine sky. These comet apparitions marked not only the astronomical events but also the complementing and conflicting discourses they caused.

Keywords: *comet, disasters, ethnoastronomy, astrology, Philippine astronomy*

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## Introduction: The Great Comet of Basi Revolt

If one follows the eyes of the man on horseback, the hat-wearing *alcalde mayor*, Don Juan Ibañes, they point to a streak of light, ball-headed, dropping into a pale blue skyscape. Some of the men, then subjected to the governor's rounds, are also eyeing this eerie ball of light. Two frames after, their enemies, the insurgents from the north, march rightward as the same yellowish flash falls into a hilly horizon covered with coconut trees. In another frame, a local militia composed of foot soldiers and cavalrymen is being sent to repel the rebel attack. This time, the ominous light takes the form of palm leaves. It won't be long for the two forces to face each other. As the Bantaoay River gushes between them, the troops at the lower bank fire their rifles mercilessly. Armed only with bows and arrows, the insurgents become sitting ducks: heaps of bleeding bodies are lining their side of the bank, while heads, of dead rebels perhaps, are partly submerged in the water. Up in the sky, the palm-shaped light, now with sharper points, passes through, showing half of its rugged body till the tail, opposite to puffs of cumulus clouds, if not gun smoke, hovering over a group of fleeing rebels.

These scenes were part of the 1807 Basi Revolt in Ilocos, retold through a series of paintings made by an Ilocano mestizo painter, Esteban Villanueva y Pichay. Painted in 1821, when the painter was only in his early twenties, the stories on which the series was based were probably collected from eyewitness accounts. Four out of the fourteen paintings show the portentous light—in the form of a falling ball or a passing branch of palm leaves—and this is no other than C/1807 R1 or the Great Comet of 1807 (Cano, Ingel, Robis, & Tauro, 2020; for the stories of the revolt, see De los Reyes, 1889, pp. 232-234; De los Reyes, 1890, pp. 218-229).

Apart from being a visual retelling, the placement of comet in these frames might also hinted folk perception of astronomical phenomena. How the Ilocanos interpreted the passing of comet in 1807 can be surmised from *El Folk-Lore Filipino* (1889) by the Ilocano folklorist and journalist, Isabelo de los Reyes.

> Respecto á los cometas, podemos copiar, podemos copiar literalmente lo que un autor había escrito, refiriéndose á la astronomía china. Según los chinos, como los ilocanos, "los cometas son precursores de hambre y miseria y pronostican casi siempre pestes, guerras, caidas de reyes, derrumbamiento de imperios" (De los Reyes, 1889, p. 43).

> [With respect to comets, we can copy, we can literally copy what an author had written, referring to Chinese astronomy. According to the Chinese, like the Ilocanos, "the comets are precursors to famine and misery and almost always foretell pestilence, wars, fall of the kings, collapse of empires."]

The belief that comets portend famine (*hambre*), misery (*miseria*), pestilence (*pestes*), wars (*guerras*), fall of the kings (*caidas de reyes*), and collapse of empires (*derrumbamiento de imperios*) fuses meaningfully into the overall depiction of the revolt. A writer described in 1938 the religiosity among Ilocanos: "Although the people of Ilocos region, as Christians, know the heavenly bodies are creations of God, as they are themselves, they nevertheless accord the various celestial bodies with certain divine qualities, and never speak about them except in reverential tones" (Pascual, 1938, p. 292). Nearly century later, as Halley's Comet graced the Philippine sky in 1910, the same reading was ascribed by the Ilocanos, for "there simultaneously broke out a smallpox epidemic in Laoag, and this was followed by a famine." But the mishaps to expect doesn't end there. The writer continued, "What the people considered, however, as the real though belated calamity foreboded by this comet, was the World War" (Pascual, 1938, p. 292).


Fig. 1. Vigilancia del Sr. Alcalde Mayor sobre las Rondas by Esteban Villanueva y Pichay, Painting I of The Basi Revolt Paintings (1821). Photo taken by the author at the Old Carcel, National Museum of the Philippines (NMP) Ilocos Regional Museum Complex, Vigan, Ilocos Sur, 04 April 2024.


Fig. 2. Los Ilocanos Insurgentes del Norte dirigen al Sur by Esteban Villanueva y Pichay, Painting III of The Basi Revolt Paintings (1821). Photo taken by the author at the Old Carcel, National Museum of the Philippines (NMP) Ilocos Regional Museum Complex, Vigan, Ilocos Sur, 04 April 2024.


Fig. 3. Tropa de Vigan enviada a rechazar los ataques del enemigo en Bantaoay by Esteban Villanueva y Pichay, Painting V of The Basi Revolt Paintings (1821). Photo taken by the author at the Old Carcel, National Museum of the Philippines (NMP) Ilocos Regional Museum Complex, Vigan, Ilocos Sur, 04 April 2024.


Fig. 4. Sangrienta lucha estallada en Bantaoay by Esteban Villanueva y Pichay, Painting IX of The Basi Revolt Paintings (1821). Photo taken by the author at the Old Carcel, National Museum of the Philippines (NMP) Ilocos Regional Museum Complex, Vigan, Ilocos Sur, 04 April 2024.

These comet perceptions go beyond the confines of Ilocos and the Philippines. As shown in some popular science books, such as Carl Sagan and Ann Druyan's *Comet* (1985), it appears that the idea of comets being "stars of portent" is universal as it is ancient. As early as fifteenth century BCE, the ancient Chinese had been documenting comets in relation to calamities. In varying degrees and extent, similar perceptions have also existed among the Masai of East Africa, the Zulu of South Africa, the Eghap of Nigeria, the Djaga and the Luba of Zaire (now the Democratic Republic of Congo), the Babylonians of Mesopotamia, the Incas and the Aztecs of the Americas, the Greeks and Romans, the Arabs, Syrians, Persians, Turks, Egyptians, and Central Asians of the Islamic World, and the Europeans of the medieval Christian West and even of the Renaissance and Enlightenment periods (Sagan & Druyan, 1985, pp. 14-33; Thomas, 1971, pp. 90, 298-299; Verdet, 1992, pp. 77-86; Saliba, 1992; Rohr, 2022; Schmidl, 2022).

Such "universality," nonetheless, needs to be examined in their own specific contexts. We may look, for instance, at how extensive and deep among the Philippine communities this perceived relationship between comets and disasters is. In his *Balatik: Etnoastronomiya: Kalangitan sa Kabihasnang Pilipino* (2010, p. 223),

ethnoastronomy historian Dante L. Ambrosio calls for this kind of studies—how Filipinos knew and understood "comet and meteor, lightning and thunder, wind and rainbow."

Establishing the "durability" (Paluga & Ragrario, 2023), if not the rather pejorative "tenacity" (Peirce, 1877), of these epistemic-cultural perceptions, interpretation, and understanding needs interdisciplinary approaches to historical sources, to be coupled with well-informed epistemological framework. Thus, the present study can be considered as a preliminary attempt to delve into this topic. Questions such as "when and how did this Filipino perception on comets and disasters start?" can be answered, for the meantime, by some facts and conjectures we have at hand.

We may assume that these "perceptions," "interpretations," "imagination," and "understanding"—or, if one would assert incommensurability, "knowledge" or "science"—hailed back to the precolonial times.[1] This can be surmised in the Austronesian words we used for comets or meteors, and the perceptions and beliefs which the precolonial and/or indigenous Filipinos associate with them. A seventeenth century Jesuit missionary in Visayas once said that the natives learned their astronomical knowledge "either from tradition of their ancestors or from the experience that time passed on to them" (Alcina, 1668/2005, p. 55). In addition, a nineteenth century ilustrado scholar argued that Philippine local knowledge is based on "empirical methods" and "rooted in daily experience and generations of observations." Although these practices "often stem from chance occurrences or superstitions," they "nevertheless are based on tangible observations and phenomena" (T.H. Pardo de Tavera, 2000, as cited in Planta, 2023, pp. 82-83). In the case of ominous comets, these foundations of knowledge production—ancestral tradition, historical experience, and generations of observations—might have validated the reasoning called *post hoc ergo propter hoc* (*after* it, therefore *on account* of it) (Zwack, 1910), which confuses correlation for causation. This is apparent, for example, in an account of Bukidnon folk, saying, "[People] even predict that war will also come because during the previous war a comet also appeared first" (Demetrio, 1991, p. 345). Despite being "unscientific," the

[1] My use of "perception" here is nearly synonymous with "interpretation," "imagination," "reading," or "understanding." I am inclined to use this term more frequently than others because I think it would be the nearest term to describe the social phenomenon. I find in this term a kind of "unity" of both the act of seeing comets and the act of decoding what the comets signify.

principles of epistemic "incommensurability"[2] would remind us that these perceptions or interpretations need to be situated in their proper epistemological and social contexts.

Furthermore, these local knowledge, perceptions, or beliefs were not solely "pre-Spanish." As to be shown later, some Spaniards were also "superstitious," thereby revealing a curious mix of exact astronomical description and enduring medievalist interpretation.[3] It was only by the nineteenth to early twentieth centuries that these "primitive superstitions" and "popular apprehensions" (Zwack, 1910) were combatted by modern science, through an army of scholars, schoolbook writers, and scientists. Nonetheless, the Filipino perception of comets as stars of portent persists till this day.

The period covered is from 1566 to 1910, which I believe is a good timeframe for examining how the perceived relationship between comets and disasters were established and strengthened, how it was challenged by new scientific paradigm, and how it was sustained despite these challenges. It starts with the sighting of a comet in Cebu in November 1566, which the Spanish soldiers took as a sign of war and bloodshed ("Resume," 1559-1568/1903, p. 152). The study ends with 1910, the year of Halley's Comet's passing, which turned into a scene of epistemic battle between prevailing astrological interpretation and modern scientific explanation. Within this timeframe, I will show how Spanish astrological perceptions strengthened the indigenous mentality on comets and disasters, and how modern astronomy attempted to correct these "beliefs," much to its dismay, due to these beliefs' durability or tenacity. To contextualize this period, I go beyond the either ends of the timeline. On one end, I provided the Austronesian, pre-Spanish foundation through lexicographic data and ethnographic accounts to inform us of the Filipino concept and understanding of comets before the European encounter. On the other, postwar Filipino folk beliefs and customs are provided which argue for the durability and tenacity of these concepts and perceptions.

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[2] Keith Windschuttle (1996, pp. 207-208) summarized Thomas S. Kuhn's concept of *incommensurability*: "Different [scientific] paradigms operate with different concepts, sometimes changing the meaning of old terms, and they have different standards of acceptable evidence, as well as different means of theorizing about their subject matter… there is no common measure for the merits of competing theories, nor any common agreement about what constitutes either a scientific problem or a satisfactory scientific explanation."

[3] "Exact" here pertains to the involvement of precise quantitative measurements, techniques, and other approaches in observation or experiment, as used in the term "exact sciences."

## Philippine Words for Comet

In some Philippine words, meteors and comets are rarely distinguishable from one another. Although the Proto-Philippine (PPh) protoform **bulalakaw*$_2$ means 'shooting star, meteor, spirit of the shooting star' (Blust & Trussel, 2020), some reflexes also pertain to 'comet,' such as the Bicol and Tagalog *bulalakaw* (Lisboa, 1754, p. 142; De los Santos, 1794, p. 295; Noceda & Sanlucar, 1832, p. 80),[4] and Bahasa Sug (Tausug) *bulakaw* (Hassan, Halud, Ashley, & Ashley 1975, p. 101).[5] The Batad Ifugao *bullāyaw*, however, is not 'meteor,' but rather 'a fireball with a tail; a comet.' Shooting stars in Batad Ifugao are called *duhduhnug* (Newell & Poligon, 2013).

Aside from PPh **bulalakaw*$_2$, some reflexes from other protoforms of astronomical words have a semantic expansion which includes 'comet'. Synonymous to *kometa* and *taing-bituin*, the Tagalog *buntala* pertains to 'planet; comet' (Santos 1978, p. 205; cf. Ambrosio, 2010, p. 171). This is probably derived from Tagalog *tála?* 'bright star, planet,' from the Proto-Malayo-Polynesian (PMP) **talaq*$_1$ 'the morning (evening) star: Venus' (Blust & Trussel, 2020). Cognates of *tála?* include the Ifugao *tallo* 'bright morning or evening star; the planet Venus' and the Mansaka *bonta-tara?* 'morning star.' Hailing from Proto-Austronesian (PAn) **bituqen* (Blust & Trussel, 2020), the Kapampangan *batwin* is also synonymous to 'comet,' at least in Father Diego Bergaño's Kapampangan dictionary (1732, p. 22; 1860, p. 294).

Another Kapampangan word for 'comet' is *taclan* (Bergaño, 1732, p. 22; 1860, p. 294). Is this related to *tacla* 'excrement' (Bergaño, 1860, p. 233)? If so, comets in Kapampangan would either be 'star shits' or 'shitty stars.' Such scatological reference is also apparent in *taing-bituin* 'comet' (lit. 'star shit') in Tagalog-based Pilipino (Santos, 1978, p. 205), and the **taqe laŋi* 'cloud' (lit. 'feces of sky') in Vanuatu languages, the Central Maewo *tae-laŋi* and the Mafea *tai-laŋi* (Blust & Trussel, 2020).

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[4] *Bulalacao*. pp. Cometa de estos que parecen estrellas, y van cornendo hasta desbacerse (Lisboa, 1754, p. 142); *Bulalacao*. pp. Cometa, exhalación encendida. *Nagbubulalacao cagab, y, ang langit*, anoche hubo exhalación. Tambien por metáf. llaman á los cohetes *Bulalacao* (Noceda & Sanlucar, 1832, p. 80); Cometa. Bulalacaó. (pp) como la pasada. daquilang bulalacao. grande (De los Santos, 1794, p. 295).

[5] Bulakaw n. meteor, comet. Nakakita' aku bulakaw kabii. I saw a meteor last night. fig. adj. bulakawan hysterical esp. when angry. Hi Abdul bulakawan bang iyaamahan. Abdul becomes hysterical when he's angry. cf. bungis (Hassan, Halud, Ashley, & Ashley, 1975, p. 101).

In Tagalog, another term for comet is *bituing may sombol* (Ambrosio, 2010, p. 3) or simply *sombol*. *Sombol* refers to a pennant used in boats and ships (*gallardete de navío*), if not a kind of plumage (*plumaje*) (Noceda & Sanlucar, 1832, p. 375).[6] Another Tagalog word for 'comet' is *solong mangayaw*, which appeared in Domingo de los Santos' 1794 dictionary as *solongmangayao* (p. 295).[7] This can be considered as a compound word of *solo* and *mangayao*. The Tagalog *solo* (also *sulóʔ*, *sulô*, or *solô*) 'a lighted torch, a light to be carried about or stuck in a holder' or simply 'torch' hailed from PMP **suluq* 'torch, probably of dried palm frond' (Blust & Trussel, 2020; Santos, 1978, p. 2328; Noceda & Sanlucar, 1832, p. 374). Being a 'torch,' a comet also resembles a fireball. *Mangayaw* is a warfare term with varying meanings, from headhunting to sea raiding.[8] In his *A Visit to the Philippine Islands*, British official and writer Sir John Bowring (1859, p. 227) listed *solonmañgayao* 'comet; exhalation' as an example of "Tagal polysyllabic words."

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[6] Cometa: Maysombol pc: duo dic: may, sombol. l. q tiene plumaje, bitoing may sombol, estrella con complaje, por que les pareçe plumaje aquella cola que tiene (San Buenaventura, 1613); Bitoín, pp. Estrella, Bitoing may sumbol, Cometas, Cielo estrellado Langi̇t napinaninictan nang manga bitoin (*Vocabulario tagalo español*, n.d., spread no. 57); *Sombol*. pc. Gallardete de navío. *Mag*, ponerlo. *Y*, él. *An*, *donde*. *Bitoing mey sombol*, cometa (Noceda & Sanlucar, 1832, p. 375); Cometa. Sombol. (pc) Naquita co ang Sombol. Vi la cometa (De los Santos, 1794, p. 295).

[7] Cometa. Solongmangayao (pc) que pasa ligeramente. Hindi mo naquita yaong solonmangayao? no viste aquella cometa (De los Santos, 1794, p. 295).

[8] Blust and Trussel (2020) identified PMP **kayaw* 'headhunting' as the protoform reflected in Isneg *káyaw* 'headhunting,' Casiguran Dumagat *ŋayɔ* 'raider; a killing raid; to attack a house or village for the purpose of killing,' and Manobo (Western Bukidnon) *kayew* 'be in readiness to fight.' Related to this is the PMP **ma-ŋayaw* 'go headhunting,' as seen in Isneg *maŋáyaw* 'go headhunting,' Ifugaw *ŋáyo*, *ŋáyaw* 'headhunting raid, revenge expedition,' Ifugaw (Batad) *ŋāyaw* 'for a group of men … to go on a headhunting raid (a raiding party traditionally consisted of about five to ten men, usually from a single clan),' *ŋ-um-āyaw* 'waylay an enemy … for the purpose of taking a head in revenge,' Manobo (Western Bukidnon) *meŋayaw* 'a raider,' Tboli *ŋayaw* '(of people) to raid at night, to kill and take things,' and the PWMP **pa-ŋayaw* 'headhunting expedition,' as seen in Maranao *paŋayaw* 'engage in piracy,' *paŋayaw-an* 'place where slaves are captured,' Manobo (Western Bukidnon) *peŋayaw* 'raid a house or village in order to kill someone,' and Tiruray *feŋayaw* 'invade, attack another tribe or country.' Blust and Trussel explained that, "It is unclear whether a separate base **ŋayaw* is also justified for PMP. This form is reconstructed for PAn, since the only Formosan language that has a related form is Puyuma, in which the base is *ŋayaw*. Cognates such as Ifugaw *ŋáyo, ŋáyaw* and Tboli *ŋayaw* may be affixed forms of *káyaw*, or reflexes of a doublet that began with a velar nasal." William Henry Scott similarly inferred that *kayaw* is probably the root of *mangayaw*, as in the case of the Ilocano *kinayawan*, 'captive.' The Spanish lexicographers, however, "extracted *ayaw*,

In Ilocano, comets are called *bituén á nagdúlao* and *bandus*. *Bandus* refers to 'plumage, insignia of victory.'[9] A contemporary Ilocano dictionary, however, would place *bandos* under meteor, and *kometa* under comet (Agcaoili, 2011, pp. 178, 519).

In Maguindanaon, comets are called *bituun bericor* or *bituun berasap* (Juanmartí 1892, p. 28), like the Malay bintang *bĕrekor* and *bintang bĕrasap*. *Bericor* roots from the Malay *ékor* 'tail' or Old Javanese *ikū, ikuh* 'tail,' ultimately from PAn **ikuR* 'tail.' *Berasap* is from the Malay *asap* 'visible vapor; steam; smoke' or Old Javanese *asep* 'incense,' from the Proto-Western Malayo-Polynesian (PWMP) **asep* 'incense, ritual smoke' (Wilkinson, 1901; Blust & Trussel, 2020).

Tagalog, Bikol, Cebuano, Ilocano, and other languages simply borrowed the Spanish *cometa* through words like *kometa* or *kumita* (Wolff, 1972; Mintz & Britanico, 1985; Agcaoili, 2011, pp. 178, 519). Ambrosio (2010) often used *kometa* instead of the archaic Tagalog *bituing may sombol*.

From these, we may identify two ways of naming and defining a comet. First, comets are stars with an added feature, as seen in Tagalog *bituing may sombol*, Ilokano *bituen a nagdulao*, and Maguindanaon *bituun bericor* and *bituun berasap*. Second, there are word equivalents that have other meanings, such as *bulalakaw* and *bulakaw* 'meteor,' *buntala* 'planet,' *batwin* 'star,' *bandus* 'plumage,' *sombol* 'pennant,' and *solong mangayaw* 'a headhunting/raiding torch'. These word relations form semantic domains that are indicative of community concepts and practices. For instance, *mangayaw* as 'sea raiding' can be related to *sombol*, a pennant or plumage one places in ships, especially those used for raiding. A dress plumage called *tongol* is displayed at a Visayan warship's stern, and *tongol*, along with other words like *luba*, *pogot*, and *sumbali*, also means 'to behead' which the Visayans used the same manner the Isnegs, Ifugaos, and Tagalogs used *kayaw*, *ayaw*,

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*ngayaw*, and *agaw*, and it meant a raid to bring back slaves or heads." Scott further emphasized that "there is no record of Visayan headhunting—that is, warfare for the specific purpose of taking heads—but heads were cut off in the course of battle or murder" (Scott, 1994, p. 154). Confined within Spanish sources, Felice Noelle Rodriguez's article on warfare terms pointed to *ayao* (Rodriguez, 1999, pp. 147-151).

[9] *Bandus*. P.C. *Mai; nai,* Plumaje: insignia de victoria: *á pacabalbál-linguián*. Llaman asi al cometa con cola (Carro, 1849, p. 48); *Bituén*. P.C. Estrellas en general: planeta cometa – *á nagdúlao*: Estrella errante *umalis á – nagbinnúguis laeng á immalis ti* – dejó rastro (Carro, 1849, p. 59).

or *ngayaw* 'headhunting' (Scott, 1994, p. 154; Rodriguez, 1999, pp. 147-151; Blust & Trussel, 2020).

The cometary image of 'pennant' and 'plumage' also appears among the ancient Chinese. For instance, the statesman and poet Qu Yuan (340-278 BCE) used "cloud banner" and "kingfisher-blue flag" to describe these "small arbiters of human destiny," which "are in reality allusions to the numerous Chinese names for comets" (Sagan & Druyan, 1985, p. 17). In other languages, this 'pennant' or 'plumage' is seen as tail, hair, dust, smoke, and pipe. Probably derived from Malay, we found in the Maguindanaon *bituun bericor* comets being referred to as 'stars with tail.' They are called 'hair stars' by the Tshi of the Democratic Republic of the Congo (formerly Zaire). The Chinese treat them as 'broom stars,' with such a meaning punned in a royal advice by a certain Yen Tsu in 516 BCE: "A comet is like a broom: It signals the sweeping away of evil." The Tonga describe them as 'stars of dust,' while the Aztecs call them 'smoking stars,' much like the Maguindanaon *bituun berasap* and the Malay *bintang berasap*. For the Bantu Kavirondo in Western Kenya, there is only one comet, Awori, "the feared one, with his pipe" (Sagan & Druyan, 1985, pp. 14, 16). In other instances, it was said that "a comet appears because the devil is lighting his pipe and is throwing away the still burning match" (Verdet, 1992, p. 79). With these, Sagan and Druyan (1985, p. 14) spoke of the following as they pondered upon comet-naming: "Comets were a kind of psychological projective test—something wholly unfamiliar that you must describe in ordinary language." The word comet itself came from the Ancient Greek ἀστὴρ κομήτης *astēr komētēs* 'longhaired star,' likening its tail to κόμη *kómē* 'hair.'

## Pre-Spanish and Spanish Astrological Perceptions

"Everywhere on Earth, with only a few exceptions, comets were harbingers of unwanted change, ill fortune, evil. It was common knowledge," said Sagan and Druyan (1985, p. 15). They supported this generalization by comparing comet perceptions. "In their myths, the tribal peoples of Africa may have preserved something of our original perceptions of comets. To the Masai of East Africa, a comet meant famine; to the Zulu of South Africa, war; to the Eghap of Nigeria, pestilence; to the Djaga of Zaire, specifically smallpox; and to their neighbors, the Luba, the death of a leader" (Sagan & Druyan, 1985, p. 15). By saying that a heavenly phenomenon has physical, social, or "worldly" effects, such event (and the reading of it) can be considered "astrological." As posed by historian Keith Thomas

(1971, p. 284-285), "For if astronomy is the study of the movements of the heavenly bodies, then astrology is the study of effects of those movements."

Just like the communities in the other parts of the world, early Filipinos also believed in the astrological effects of comet. This can be partly explained by the relationship of astrology to animism. Assessing PPh **bulalákaw*$_2$, Blust and Trussel (2020) noted, "Although most of the known evidence from Mindanao identifies the **bulalakaw* with the spirits of lakes and rivers, the older association appears to have been with the spirits of meteors or shooting stars."[10] In the Subanen folk tradition, Bulalakaw is a giant serpent placed by God, Apo Gumulang, at the meeting point of heaven and earth. Bulalakaw encircles the world, and between its head and tail is the passageway of sun and moon (Tiemeyer, 2003, pp. 377-379). In her study on the Higaunon, anthropologist Oona Paredes stated that *bulalakaw*, the spirit, should not be "confused with the Tagalog *bulalakaw*, which is a shooting star" (2016, p. 332). The Higaunon *bulalakaw* is a spirit that "lives in bodies of fresh water (not brackish or saltwater) and is responsible for aquatic life and the overall health of the river or stream– but it can also make people ill and cause destructive floods" (Paredes, 2016, p. 332). Nonetheless, since *bulalakaw* pertains to comets too, this animist perception can be extended to comets. Thus, among the Tagalogs and Cebuanos who perceived *bulalákaw* and *bulákaw* as the Santelmo (St. Elmo's fire) or the *unglu*'s fireball vehicle,[11] comets might also be seen as such (Blust & Trussel, 2020).[12] Hailing from PPh **bulalákaw*$_2$, the Batad Ifugao *bullayaw* 'a

[10] Blust and Trussel (2020) further added, "The puzzling Ifugaw reference to the whiteness of a wealthy young man and the Cebuano reference to whiteness of the skin caused by contact with a spirit fireball suggests another feature of the belief which cannot be completely teased out of the available glosses." How these "words and things" parallel with or figure into the "clash of spirits" between native and foreign worldviews can be a subject of future studies. Filomeno V. Aguilar, Jr. (1998, pp. 32-38) explored the relationship of spirits, whiteness, and colonial negotiations in the figure of *engkanto* (enchanted beings).

[11] Contrary to Blust and Trussel (2020) who referred to *unglu* as 'witch,' the Jesuit Father Alcina wrote, "About this *unglu*, they say that it is not a witch nor a *diwata* nor even only a soul or specter but something resembling a black man, who in stature, is taller by one and a half times of an ordinary person… They relate about them that these carry off small boys and girls and even adult women into the distant mountains" (Alcina, 1668/2005, p. 371; for the whole chapter, see Chapter 18, "Concerning witches, *unglos* and other such in their antiquity; whether such still exist now," pp. 356-375).

[12] *Bulalakaw* also became a favorite symbol for some Tagalog writers in early twentieth century. Ismael Amado titled his 1909 novel, *Bulalakaw ng Pag-asa*. A fortnightly Tagalog magazine (*rebistang Tagalog*) in 1925 is also titled *Bulalakaw*. In its flag, one finds stars and the planet

fireball with a tail; a comet' indicates a more direct connection between comets and the fireball spirit or creature. A cultural note on a Batad Ifugao dictionary stated that the *bullāyaw* "eats and drinks the blood of a person at night who is not protected by a fire" (Newell & Poligon, 2013).

In the sixteenth century *Boxer Codex*, the anonymous chronicler provided a glimpse of ancient Tagalog astrology by reporting how the Tagalogs would read a comet's passing, a ring of light round the moon, and a lunar eclipse.

> Cuando había algún cometa decían que significaba que se había de despoblar un pueblo grande, o que había de morir algún principal. Cuando en la luna veían algún cerco decían que significaba muerte de algún principal. Cuando se elipsaba la luna, si estaba algún indio para ir a alguna parte fuera del pueblo, aunque le importase mucho, dejaba de ir por más de un mes, y muchas veces dejaba la ida del todo.
>
> [When some comet appears (in the sky) they say that this means that some large town will become depopulated, or that some chief will die. When a ring appears around the moon they say this portends the death of some chief. When a lunar eclipse occurs and if some indio is about to go outside his town for another destination– no matter how important – he will desist from doing so for more than a month and oftentimes not go at all (*Boxer Codex*, 2016, pp. 104-105).]

These astrological interpretations from native Filipinos may draw parallelism with those of the Europeans. In *Historia de las islas e indios de Bisayas* (1668) by the Jesuit missionary Francisco Ignacio Alcina, there are traces of "astrological dogma imposed to ethnographic observation" (cf. Thomas, 1971, p. 285). Speaking about the Bisayan natives' vices, habits, and emotions, Father Alcina pointed not only to the natives' bodies and environmental conditions as the causes of vices, but also to the "influence of the stars" (*influjos de los astros*).

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Saturn. One playful statement which serves as a space filler reads, "Magpadala kayo ng bulalakaw sa inyong bahay" (Send a *bulalakaw* to your home), referring either to a copy of magazine or a meteor/comet (*Bulalakaw*, 1925, p. 16). Interestingly, in its issue for 15 October 1925, one also finds an advertisement for a shoemaker's shop named "Ang Cometa" (*Bulalakaw*, 1925, p. 11).

> Aunque la voluntad del hombre es causa principal de sus vicios en cuanto pecados, y de los muchos actos se engendran los hábitos viciosos, con todo parece, que las calidades del cuerpo, temple de las tierras o influjos de los astros, se comunica no poco a los ánimos inclinados, cuando no obligando (que a lo malo solo el hombre se determina de suyo, nada le obliga) a algunos vicios más que otros.
>
> [Although the human will is the main cause of one's vices whenever these are sins, and vicious habits are developed from repeated acts, yet it seems that the dispositions of the body, the climatic conditions of the land and the influence of the stars have a considerable influence upon the spirit. One is not compelled toward some vices more than others (Alcina, 1668/2005, pp. 398-399).]

Hispanic astrological reading applies not only to stars, but also to comets. On 20 November 1566, a "very large comet" (*un cometa muy grande*) was seen in Cebu, and it was a subject of the reports written by Spanish soldiers. The perceptions were varied. In one account, some soldiers treated this as "an omen of war and bloodshed" ("Resume," 1559-1568/1903, p. 152). Other soldiers, however, saw this interpretation as superstitious, an "amusing" if not "crazy" take.

The latter was recorded in Father Gaspar de San Agustin's *Conquistas de las Islas Filipinas* (1698). Martin de Goyti, the master-of-camp (*maestre de campo*), upon "seeing the nonsense they were reporting about the comet" (*viendo los dislates que decían hacienda juicio del cometa*), told the story of a Portuguese captain named Antonio López Sequeyra. Earlier, this Portuguese captain led one of the rowboats near the Mindanao coast. The encounter with Captain Sequeyra was described by the Spanish governor, Miguel López de Legazpi, as a "comedic farce that is unworthy of Christian captains and just nations" (*el cual tuvo menos comedimiento con él del que se requería entre Capitanes cristianos y naciones tan juntas*) while Goyti himself, relating the story to Simon de Melo, a Spanish captain, called Sequeyra "crazy" (*un loco*). Later, Goyti told the following to the Cebu soldiers who saw the comet:

> Pues ya V.mds. han dicho su parecer, justo será que oigan el mío; aunque el juicio no es de mi cabeza sino del Capitán Antonio López Sequeyra, que explica en esta cometa los grandes daños y males que han de sobrevenir a todo

> este Campo por habernos atrevido a poblar en estas islas sin consentimiento del Serenísimo Rey de Portugal…
>
> [Your graces have given your opinion, it is but right that you should hear mine. Even if this does not come from me, but from Captain Antonio López Sequeyra, who explained that this comet presages great harm and evil to befall all this camp for having dared populate these islands without the consent of the Most Serene King of Portugal… (San Agustin, 1998, pp. 460-463).]

Having said this, Goyti read Sequeyra's letter, "laughing out loud and to the great amusement of everybody who heard the reply and what transpired" (*con grande risa y pasatiempo de todos, habiendo oído también la respuesta y lo que había pasado*) (San Agustin, 1998, pp. 462-463). Although this "superstitious" belief was from a Portuguese, not a Spaniard, it reflected the popular lore in Europe (see Sagan & Druyan, 1985, pp. 26 – 33; Verdet, 1992, pp. 78-86; Rohr, 2022).

Another comet story was told by the same Augustinian friar, as he spoke about some events in 1597. This time, the new governor and captain-general, Francisco Tello de Guzmán, was recently welcomed in Manila. A ship bound for Mexico had a bad trip, and this misfortune was attributed by the author to a comet. The story might have hinted Father San Agustin's own inclination to astrology.

> Pues habiendo despachado la nao San Felipe a la Nueva España a cargo del General D. Matías de Landecho — en cuya compañía se embarcaron los Padres Fr. Diego de Guevara y Fr. Juan Tamayo— salió de Cavite a doce de julio y padeció tales tormentas y temporales contrarios que estuvieron próximos a perderse. El tiempo fue notable y calamitoso, porque en 22 de julio se vio un espantoso cometa cuya cauda tiraba al septentrión, indicio de los sucesos que por aquella plaga amenazaban. En cuatro de septiembre hubo un terremoto que fue muy grande en el Japón, donde cayeron muchos edificios, y el mar causó tan gran tormenta que desarboló la nao San Felipe, y corriéndola tan horrorosa que, sin árboles, velas ni timón arribó al Japón en 18 de octubre, a la isla de Thoza, en Xicoke.

> [The ship *San Felipe* was dispatched to New Spain under the command of General Matías de Landecho, accompanied by Fr. Diego de Guevara and Fr. Juan Tamayo. It left Cavite on July 12 and suffered such tremendous storms that it was close to perishing. The weather was calamitous and on July 22, a frightening comet was seen whose tail tapered to the north. This was an indication of the disaster to come. On September 4, a very strong earthquake occurred in Japan where many buildings were leveled. It caused such turbulence in the ocean that it split the mast of the *San Felipe*. It swept the boat along so horribly without a mast, sails or rudder that it was shipwrecked in Japan on October 18 off the island of Thoza in Xicoke (San Agustin, 1998, pp. 1034-1035).]

Priestly prognostications also appeared in Father Diego Aduarte's *Historia de la Provincia del Sancto Rosario de la Orden de Predicadores* (1640). Here we can read the story of Father Bernardo de Sancta Catalina, who had foreseen, among others, the demise of Governor General Juan de Silva. One omen which occurred to him pertains to the struggles of Dominican missionaries in Japan in 1616.

> The persecution in Japon was revealed to him before it occurred. Being asked how he knew of the threatening danger, he said that he inferred it from certain stars in the sky, which resembled a comet threatening Japon. His companion when he had looked was unable to see any comet, or anything like one (Aduarte, 1640/1905, p. 64).

From 20 November 1680 to 14 February 1681, another comet was seen in Philippine sky. Father Casimiro Díaz, an Augustinian priest, provided mathematical descriptions of the astronomical phenomenon culled from the observations and measurements of two Jesuit mathematicians, Fathers José Zaragoza and Eusebius Kino (Díaz, 1890/1906, pp. 195 – 197). Despite these seemingly "scientific" account, Father Díaz described the comet as "frightful," and said that "this comet was visible throughout the world, giving rise to much discussion over its effects, which in truth were generally very evil" (1890/1906, p. 197). To quote in length:

The frightful comet [was] so large that it extended, like a very wide belt, from one side of the horizon to the other, with but little difference [in its breadth], causing in the darkness of the night nearly as much light as the moon in her quadrature. The course of this comet was, like those of the planets, a rapid one from east to west, so that every day it disappeared and was hidden. The other movement was a retrograde one, so that it moved from west to east three or four degrees, and sometimes more than five, each day, at times less. This movement lasted from November 20 until February 14, 1681, in which time it passed through the signs of Virgo, Libra, Scorpio, Sagittarius, Capricornus, Aquarius, Pisces, and Aries-passing the equator from the south, from the handle of Libra and Ophiuchus [Serpentario]. It crossed the ecliptic and southern solstice, and through the constellation Antinous to the tail of the Dolphin, to the tail of the Little Horse [i.e., Equellus], and the breast of Pegasus, and thence to the head of Andromeda; and it passed over the equator at 310º from the point of Aries. Its magnitude was frightful, for its circumference and head [i.e., of the coma and nucleus] was two thousand one hundred and four leguas; and its magnitude was equal to that of Mercury, which is nineteen times larger than the earth. Its tail reached, on January 8, an extent of seventy-five degrees, which at its distance made 1,437,919 leguas. It was a celestial comet, and not elemental; and according to its parallax it was in the celestial quarter distant from us 1,150 semidiameters or halves of the line which we regard as crossing the center – which, according to the measurement of Father José Zaragoza, a distinguished mathematician of the Society of Jesus, are 1,153,000 leguas, which was its apogee. Its movement was 7,458 times as swift as the velocity of a cannon-ball weighing twelve libras, which, according to those who are curious, travels in each minute, or sixtieth part of an hour, two-thirds of a legua. This comet was visible throughout the world, giving rise to much discussion over its effects, which in truth were generally very evil. On the second of January it passed the parallel of our zenith. These observations were made by Father Eusebius Kino, a German, of the Society of Jesus—a mathematician of the university of Ingolstad, a missionary in California—while he was in Mejico; and he printed them, with a dedication to our Lady of Guadalupe (Díaz, 1890/1906, pp. 195 – 197).

Aside from 1566, 1597, 1680-1681, and 1807, comet apparitions were also observed in the Philippines in the years 1618 ("Relation of the events," 1619/1904, pp. 224, 227), 1734 (Selga, 1922), and 1882 (Ocampo, 2020). Until the late nineteenth century, as historian Kerby C. Alvarez (2013, p. 152) once argued, religious reading of natural phenomena prevailed, and natural disasters were perceived "as manifestation of God's malevolence." Comets were treated as omens of calamity and misfortune even by the educated class. For instance, in 1882, when a comet was seen in Calamba, Laguna, Maria Mercado wrote to her brother José in Spain: "Tatay is asking if you have not seen there a comet like the one we used to see during the cholera epidemic at four o'clock in the morning" (*Ipinatatanong sa iyo ni Tatay cung uala ca rao naquitang cometa dían na pares ñg aming naquiquita dine buhat ñg mag ca Cólera, na cun aming maquita ay cun a las cuatro ñg umaga*) (*Cartas*, 1961, pp. 58-59; Rizal, 2011, pp. 53-54). After a month, José replied rather nonchalantly: "Tell Tatay I saw the comet with the long tail one night when Sanciangco, Paterno, and I were returning from the house of Don Pablo. The tail was long and it was visible from one to six o' clock in the morning" (*Dí a tatay que ví el cometa de larga cola, una noche en que Sangsianco, Paterno y yo veníamos de la casa de D. Pablo. La cola es larga, y cuando aparece es desde la una hasta las seis de la mañana*) (*Cartas*, 1961, p. 77; Rizal, 2011, pp. 69-70). Historian Ambeth R. Ocampo (2020) described 1882 as "a year that was remembered for typhoons, floods, earthquakes, and a cholera epidemic that left hundreds dead and thousands in fear and mourning."

Going back to our introductory story, the astrological interpretation of Villanueva's comet portrayal would run smoothly with the fact that the Basi Revolt itself is a site of folkloric reading and retelling. Given that the paintings were commissioned, both the natural and supernatural are assumed to take the side of the Spaniards and their native allies. Divine intervention was not only embodied by the Great Comet, but also enacted by the Mother of God herself. It was told that the Vigan Ilocanos prayed to the Virgen de la Caridad for protection from the insurgents. The Virgin, in turn, disguised herself as a woman carrying a jar, and upon meeting the rebels coming from north, offered them a drink. The rebels refused and proceeded to the Bantaoay River. It led to the drowning of some rebels as the woman poured water out of her jar. Due to her "act of charity," the Vigan troops was able to pounce on their vulnerable enemies (De los Reyes, 1889, pp. 232-234). These stories of heavenly powers, a comet in the sky and the Christian Virgin on earth, construct a cosmological view that fuses native and foreign mentalities.

## Combatting "Primitive Superstitions" and "Popular Apprehensions"

Later, astrological perceptions and prognoses encountered an antithesis: modern astronomical science. Nineteenth century became the stage wherein the gradual assault against these comet interpretations occurred. In 1863, a royal decree led to the reforms on education (Grifol y Aliaga, 1894). During this time, suggested textbooks for primary schools already contained scientific information about comets. In these books, astronomy (*geografía astronómica*) is under the geography subject. A regular import, Ricardo Díaz de Rueda's *La escuela de instruccion primaria* (1845) rectifies the "belief" (*creencia*) on comet apparitions.

> P. La aparicion de los cometas es signo de guerras ó de algun otro género de calamidades?
>
> R. No, porque ninguna conexion tienen con ellas. La creencia contraria es una de las muchas preocupacion es que se trasmiten de unos en otros por la ignorancia y por una ciega credulidad (Díaz de Rueda, 1845, p. 245).
>
> [Q. Is the apparition of comets a sign of wars or some other kind of calamities?
>
> A. No, because there is no connection between them. The contrary belief is one of the many concerns that are transmitted from one to another by ignorance and blind credulity.]

In addition, a geography book published in Manila also included a scientific description and illustrations of comets (Noval, 1896, pp. 7, 22-23). This book, *Lecciones de geografía universal y particular de España y Filipinas* (1896), was authored by Father José Noval y Gutiérrez, a Dominican professor at Santo Tomás, and published by the Imprenta del Colegio de Santo Tomás.

Development in the content of schoolbooks can be coupled with the establishment of scientific institutions such as the Escuela Náutica de Manila (est. 1820) and the Observatorio Meteorológico de Manila (est. 1865). It won't be long before the rise of the Filipino *ilustrados* (lit. 'enlightened ones') in the late nineteenth century, who constituted the intelligentsia. Some of these members of the educated class would be involved in the propaganda movement, which pushed forth political and social reforms for the Philippine colony. As local heirs of the

Renaissance and the Enlightenment, these ilustrado propagandists "corrected" these medievalist superstitions propagated or tolerated by the Spanish friars. They belong to what Sagan and Druyan (1985, p. 26) called "a new breed of scholars who were predisposed to hold the Church responsible for superstition and ignorance."

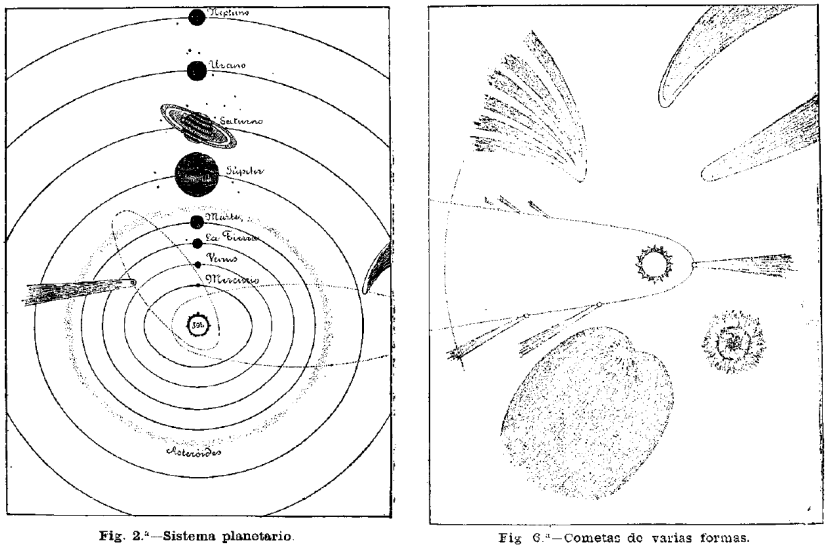


Fig. 2.ª—Sistema planetario.

Fig. 6.ª—Cometas de varias formas.

Fig. 5. The heliocentric planetary system, which shows a comet (left), and the comets' forms and track around the sun (Noval, 1896, pp. 7, 23, accessed through Biblioteca Digital Hispánica, Biblioteca Nacional de España).

Isabelo de los Reyes, the Ilocano ilustrado mentioned earlier, used folklore and fiction to criticize the "medievally superstitious" Spaniards, especially the friars. It was implied in *El Diablo en Filipinas segun rezan las crónicas* (1887), a fictional dialogue that quoted friar accounts, and his very own folklore collection, *El Folk-Lore Filipino* (1889), that the priests themselves were "superstitious'" and "out of time" (Benedict Anderson in De los Reyes, 2014, p. 9; Thomas, 2016, p. 130; Testa – De Ocampo, 2022). A more direct attack was posed by Trinidad H. Pardo de Tavera, who, on one occasion, "seized the moment to tackle the pervasive *legado del ignorantismo* (legacy of ignorantism) perpetuated by Spanish friars" (Planta, 2023, p. 68). Historian Ma. Mercedes G. Planta (2023, p. 69) underlined how Pardo de Tavera "likened to a spreading *lepra de la superstición* (leprosy of superstition)" this frailocratic legacy of ignorantism, and how the natives, who were subjected to religious education, suffered in mind and heart.

> [L]a persistencia de antiguas supersticiones son una demostración del fracaso de la educación religiosa. Tendrían por excusa los misioneros culpara la rudeza invencible del filipino, que podríamos admitir por cortesía y para evitar discusiones. Pero lo grave no es que ellos no pudieron quitar algo de la supuesta cabezadura del indio, sino el tremendo caudal de supersticiones que durante más de tres siglos, esos misioneros han hecho penetraren esa misma cabeza con tan grave perjuicio para su mentalidad y su moralidad.
>
> [The persistence of these old superstitions are proofs of the failure of religious education. Missionaries will perhaps attribute this to the supposed stubbornness of the Filipinos, a notion we shall concede to for politeness and to avoid contention. However, what matters is not their inability to eradicate these superstitions due to the perceived obstinacy of the Indio, but rather the extensive propagation of superstition over more than three centuries and how these missionaries inculcated these in his mind to the detriment of his mentality and his morality (Pardo de Tavera, 1920, in Planta, 2023, pp. 69-70).]

The American arrival in the Philippines further augmented these attacks. In the early twentieth century, "primitive superstitions" and "popular apprehensions" on astronomical phenomena were vigorously combatted by American institutions of education and science. As cholera was explained through germ theory and the volcanic eruptions through geophysical sciences, comets were described as celestial bodies "composed of matter… [and] follow the universal law of gravitation and other physical laws," rather than as a "sign of God's wrath" (Zwack, 1910, pp. 7-8).

In May 1910, Halley's Comet graced the Philippine sky. Months before, the Executive Bureau found it necessary to explain through science the upcoming arrival of the "celestial visitor." The task fell into the hands of the Jesuits of the Manila Observatory, then the central office of the Philippine Weather Bureau. Reverend Father George M. Zwack, the bureau secretary, hurriedly wrote the pamphlet, *The Return of Halley's Comet and Popular Apprehensions.* Father Zwack is a German Jesuit from Buffalo, New York who went to the Philippines in 1902 (Hennessy, 1960, p. 108). Based on the transmittal letter by the bureau director, Father José Algué, S.J., to the Interior Secretary dated February 4, it appears that the pamphlet was published sometime after.

Father Zwack promised to "tell the truth, the whole truth, and nothing but the truth," emphasizing science over "ignorance or superstition, or… both combined" (1910, p. 7). He described his treatise that "it is a plain and honest exposition of the groundlessness of fear in regard to comets in general, and particularly as concerns the present return of Halley's comet" (Zwack, 1910, p. 5). With a dash of wit, Father Zwack emphasized the distinction between causation and correlation in interpreting astronomical phenomena.

> [C]omets are by no means warnings of impending calamities, but very natural phenomena. Great disasters have doubtlessly followed the appearances of comets; but the reasoning "*post hoc, ergo propter hoc*" (*after it*, therefore *on account of it*) is exceedingly illogical. The comet had as little to do with them as your or my sneezing on December 27, 1908 had to do with the Calabrian earthquake of the following day (Zwack, 1910, p. 9).

The bureau scientists called for its enthusiastic distribution. Father Algué asserted that, "I am convinced that the purpose of its author may be obtained if the pamphlet is given the widest circulation possible" (Algué, "Letter of Transmittal," in Zwack, 1910, p. 3). Although we don't know yet if the pamphlet was indeed wide-reaching (cf. Alvarez, 2017, pp. 166-167), the events of 1910 imply how ineffective this science propaganda was. It turns out that the locals read the passing of Halley's comet as a sign of times, signaling a general unrest in Central and Southern Luzon. Historian Reynaldo C. Ileto wrote,

> Contributing significantly to the state of excitement and expectation among the masses in 1910 was the rumor that the appearance of Halley's coment [*sic*] meant war, and that this war might possibly be the prelude to independence. The "general belief of the ignorant popular masses," adds the constabulary report, was that "it was this Halley comet which announced the birth of the Son of God to the Wise Men, and that today it announces to the Filipino people the proximity of the day of their independence." The comet was a clear sign (*tanda*) which various politicians and peasant leaders pointed to in order to further convince the people that 1910 was the year to rise in arms (Ileto, 1979, p. 239).

Father Zwack's English pamphlet can be partnered with a Tagalog geography textbook which appeared in print three years later. Authored by Manila-based Tagalog writer Mamerto Paglinawan, *Bulatlupang Tagalog* (1913), also titled *Heograpiang Tagalog*, contains lessons in astronomical, physical, and political geography using the traditional question-answer format. We find in this "geography book in vernacular" a better attempt to confront the folk beliefs and customs on comets. Paglinawan debunked such "old beliefs" (*matatandang paniwalà*), calling them utter lies (walâ nang kasinungalingang gaya ng mga paniwalàng itó).

T. ¿Nakasasamâ kayá ó nakabubuti ang paglitáw ng kometa sa Lupà?

S. Ang paglitáw ng kometa sa Lupà ay hindi nakasasamâ ni nakabubuti, sa makatuwíd bagá'y walâng sukat ipanganíb. Dapat matalastás, na ang mga kometang lalòng kilalá ay may sariling landasing tinutuntón sa pagtakbó na siyáng iniikitan niyâ sa panápanahón, na gaya ng halimbawà ng kometa Halley na bago málakad ang kanyáng paligid ay tumátagal muna ng 76 na taón. Ang mga kometa ay hindi nawawalâ kailán man sa kabilugan ng langit, at kung kayâ lamang hindî natin nakikita sa arawaraw ó sa gabígabí ay sapagkâ't nálalayò silá sa Lupà.

T. ¿Anó ang dapat másabi ukol sa matatandâng paniwalà?

S. Sangayon sa matatandâng paniwalà, ang paglitáw raw ng kometa ay siyáng dahilán ó babalâ ng mga digmâan, salot ó mga pagkakasakít, gutom at ibá pang sakunâ na mangyayari sa mga tao. Walâ nang kasinungalingang gaya ng mga paniniwalàng itó, palibhasà'y ang mga bagong tuklás ng karunungan ay táhasang nagsasabi na ang mga kometa ay walâng kinálaman ukol sa Lupà (Paglinawan, 1913, pp. 17-18).

[Q. Is the appearance of comet on earth bad or good?

A. The appearance of comet on earth is neither bad nor good, in short, it does not do any harm. It should be understood that the well-known comets have their own track to follow which it encircles from time to time, like the Halley's Comet which takes 76 years before it completes its orbit. Comets do not disappear forever in the sphere of heaven, and it is only because they are away from earth that we cannot see them every day or night.

Q. What should be said about old beliefs?

A. According to old beliefs, the appearance of the comet is said to be the reason or a warning for war, pestilence or epidemics, famine and other disasters that would happen to people. No lie is comparable to these beliefs, especially because new scientific discoveries have stated straightforwardly that comets have nothing to do with earth.]

## Persistence of Perceptions

Despite the improvement in science research, education, and communication, comet beliefs persisted among the Filipinos. In 1921, another Tagalog writer, Rosendo Ignacio, published his book *Aklat ng Karunungan ó Mga Lihim ng Kalikasan: Sinipi sa mga "Libro de Ciencias"* (1921). A compendium of esoteric and practical knowledge, four chapters of Ignacio's book dealt with astronomy and astrology. In one of these chapters, "On Presaging Events through Comet Rays" (*Kasaysayan ng panghuhula sa mangyayari sa pamamagitan ng sikat ng kometa*), Ignacio wrote, "It should be known that through the comets' shape and form and the colors shown through their radiance, one may identify the power they possess and the events they would bring, and their types" (*Dapat ngang mabatid, na sa hugis at anyong tinataglay ng mga kometa, at sá mga kulay na ipinakikita sa pagsikat, ay nakikilala ang kanilang taglay na lakas at ibinubungang pangyayari, at kung anong uring tinataglay*) (Ignacio, 1921, pp. 34-35). Such part exhibits a well-defined comet typology. Indicated below are the forms and colors of comet and the corresponding celestial bodies and meanings.

In the *Encyclopedia of Philippine Folk Beliefs and Customs*, edited by Jesuit Father Francisco Demetrio (1991, pp. 345-346), twelve entries concerning comets are placed under a sole motif, "Comets Appearing Presage Calamities." Like those from other sources, these calamities include war, hunger, famine, drought, sickness, epidemic, plague, and pestilence. Dated 1946 – 1972, the entries can be compared with Ignacio's comet typology. As said earlier, the tail's form may hint at the type of disaster to expect (Ignacio, 1921, pp. 34-35; Verdet, 1992, p. 79). Two entries spoke of comets with "long tails," "tail like a saber," and "tail like a broom."

Table 1. The meaning of comet's color and form in Rosendo Ignacio's *Aklat ng Karununğan* (1921, pp. 34 – 37)

| Comet's color and form | Corresponding celestial body | Meaning |
|---|---|---|
| *Maitim at mamerdemerde* (Dark and greenish) | *Saturno* (Saturn) | Death, pestilence, extreme cold, icing of dews, darkening winds, disasters, tornado, earthquake, rising tides, hunger, and lack of food |
| *Mamutimuti at bahagyang madilaw... malaki at mabilog, at nahahawig sa mukha ng tao* (Whitish and slightly yellowish, big and round, face-like) | *Hupiter* (Jupiter) | Death of a king or great individuals |
| *Mapula at nagbabaga, at ang buntot ay mahaba* (Reddish and flaming, with long tail) | *Marte* (Mars) | Great famine, wars, earthquakes, water scarcity, and fall of cities and kingdoms in the West |
| *Maputing maputing kulay, kakilakilabot ang anyo* (Too white, terrifying form) | *Araw* (Sun) | Change of states, scarcity of fruits, death of kings and wealthy and powerful men |
| *Ginintuan... malaking nahahawig sa buwan, na may lampik, at may mga tilamsik na nanaiiwan sa likuran* (Golden, moon-like, with sparks left at its end part) | *Venus* (Venus) | Harm for the powerful and new religions |
| *Iba't ibang kulay, ó kulay bughaw lanğit, na maliit ang katawan at mahaba ang buntot* (Different colors, or sky blue, with small body and long tail) | *Mercurio* (Mercury) | Death of some princes, revolt of the people, hunger, war, famine, thunder and lightning |
| *Kulay pilak na malinaw na malinaw, napakaliwanag, na halos natatangi sa kaliwanagan nğ ibang mga bituin* (Silver, very clear and bright, almost unique in its own glow compared to other stars) | *Buwan* (Moon) | Prosperity in life, especially if Hupiter would be seen at the signs of Cancer or Piscis |

> Comets with long tails are a bad omen. Like a broom which sweeps dirt, these will sweep people's property, either with an epidemic or some other calamity. Cagayan de Oro City, 1966, old people: by Alejandro L. Custodes (m) (Demetrio 1991, p. 345).
>
> If a comet appears with its tail like a saber, war will come. If it is formed like a broom plagues and other pestilence will occur. (Kon mosubang daw ang kometa kag ang ikog korte espada, may guerra nga palaabuton; kon silhig gani pameste, kag kon ano pa nga salot.) Davao City, 1967, old people: by Erlinda Jermia (f) (Demetrio 1991, pp. 345-346).

Broom-like tails remind us of the Chinese 'broom star,' as well as its role to "sweep away evil." Meanwhile, Filipinos seeing tails as *korte espada* ('saber-shaped') finds affinity with Europeans and West Asians who, starting the first century, watched the skies for "hanging swords" that signify civil troubles, wars, assassinations, and destruction of cities (Sagan & Druyan, 1985, p. 25).

Where the tail points are also read, as seen in the two entries below. Suggesting a good omen, the second entry is an exception, like the !Kung of Namibia who were "alone in their optimism" (Sagan & Druyan, 1985, p. 15; cf. good omen in Ignacio, 1921, pp. 36 – 37; Verdet, 1992, p. 82).

> I heard one barrio folk who had seen a comet say that if the tail pointed downward to the earth, there would be war and famine. Quezon City, 1966, old people: by Reynaldo Reyes (m) (Demetrio, 1991, p. 346).
>
> When a comet's tail points downward, bad things may happen. If it points upward, good things may happen. Malaybalay, Bukidnon, 1967, Ofelia Gamao (f): by Estrellita B. Halina (f); Maramag, Bukidnon, 1967, Anunciacion Cadiz (f): by Corazon Cadiz (f); Pangantucan, Bukidnon, 1967, Avelino Ruferzo (m): by Salvador Don (m) (Demetrio, 1991, p. 345).

From these select details, we can say that the precise documentation of comet apparitions would lead to the proper decoding of the comet's message. Interestingly, these multiple ways of reading point towards a kind of astrological "pluralism" (cf. "medical pluralism" in Newson, 2008). It was "pluralist" in the sense that even though these astrological interpretations generally agree in saying

that comets signify disasters, they hailed from a variety of sources. Thus, in the twentieth century, the pre-Spanish and Spanish foundations of comet astrology were further supported and expanded through the medium of print. Although we are yet to investigate the "knowledge transfer" (see Rohr, 2022, p. 152) that led to Ignacio's compendium, his sources were probably European astrological texts from the Renaissance period, if not the Middle Ages, and these texts probably had deeper roots in the Islamic or Hellenic astrological cultures, or even the ancient Mesopotamian ones (cf. Schmidl, 2022, pp. 254-255). Thus, by the postwar period, when Father Demetrio and his team collected entries of Filipino folk beliefs and customs, it would be difficult to know if the sources of these perceptions were indigenous, Spanish, a mix of both, or from other foreign sources. Further, these perceptions also had similarities with how Europeans, West Asians, Africans and the Chinese interpret comet apparitions.

Far removed from the strictures of modern observatories and laboratories, local production of knowledge through ancestral tradition, historical experience, and generations of observations (Alcina, 1668/2005, p. 55; Pardo de Tavera, as cited in Planta, 2023, pp. 82-83) partly causes the perpetuity of these perceptions. Furthermore, one entry stated that "[people] even predict that war will also come because during the previous war a comet also appeared first" (Demetrio, 1991, p. 345). With this, astrological principles were "validated" by historical experiences of the community. It can be sustained by the collective memory of disasters which the people went through. Although the relationship of these astronomical and worldly events is merely correlational, we may further think how this reflects the epistemological processes of communities who treated these perceptions or interpretations as fact and truth.

## Conclusion

The perception on comets as harbingers of calamities and ill fate existed in different parts of the world, including the Philippines. This paper attempts to show how these perceptions, interpretations, or understanding developed and deepened through time. Lexicographic data show how Filipinos thought about comets and their passing, while ethnographic and historical accounts provide a glimpse to the knowledge processes which put into reason these comet "beliefs" or "superstitions." Ancestral tradition, historical experience, and generations of observations can be cited as causes that established and strengthened the astrological mentality. Rooting from the precolonial times, this perceived relationship between comets

and disasters was made more durable and tenacious by the superstitious Spaniards, who possessed and propagated the "popular imagination" of pre-modern, comet-fearing West. Gradual permeation of modern science in the nineteenth and twentieth centuries combatted this "legacy of ignorantism." However, as seen in the proliferation of astrological books and oral folklore, the perception persisted among the Filipinos despite the advent of scientific modernity.

I'll end with an anecdote. Dante L. Ambrosio, the pioneer historian of Philippine ethnoastronomy, opens his book with a comet sighting.

> Oktubre 1965 nang una akong makakita ng kometa. Nag-aaral ako noon sa Philippine Science High School at nakatira sa dormitoryo nito sa UP Village, Quezon City. Kaunti pa ang mga bahay rito, at may mga burol pa. Isang madaling-araw, umakyat kami ng aking mga kadormitoryo sa isang burol para tingnan ang Kometa Ikeya-Seki, isa sa pinakamaliwanag na kometa ng siglo 20. Kapwa pagkamangha at pagkabahala ang naramdaman ko. Namangha ako sa angkin nitong kariktan ngunit nabahala naman sa tila panghihimasok nito sa karaniwang larawan ng langit. Noon tumindi ang pagnanais kong tuklasin pa ang ibang "lihim" ng langit. Noon ako nagsimulang maging stargazer at amateur astronomer (Ambrosio, 2010, p. 1).
>
> [I first saw a comet in October 1965. I was then studying at Philippine Science High School and residing in its dormitory in UP Village, Quezon City. The houses here were only few, and there were still hills. One early morning, my dormmates and I climbed up a hill to watch the Comet Ikeya-Seki, one of the brightest comets in the twentieth century. I was both fascinated and worried. I was fascinated by its own beauty, but I became worried about its seeming intrusion into the plain image of the sky. At that time, my desire to discover more of heaven's "secrets" intensified. It was then that I began to become a stargazer and an amateur astronomer.]

Ambrosio remembered this apparition as one of the events that ushered his interest in astronomy, and this, too, foretold one of the fascinating turns in Philippine historiography. Thus, it seems, for Ambrosio and for us, that this Comet Ikeya-Seki is not a star of portent that brings disasters and doom, but a *bulalakaw ng pag-asa*, a comet of hope.

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