

The Super Cyclone of 1999 and Lunar Alignment Effect

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Abstract: The extraordinary intensification of the Super cyclone of 1999 examined over its entire life period. Luni alignment and particularly full moon at perigee in syzygy stands out as the intensifying cause; maintains energy basket and triggers robust stochastic path ways. Moon at zenithal cum latitudinal aligned positions impart maximum buoyancy to system, and atmospheric fluid flow pathways. Imparts preferred shape, minimum volume, high gyration, structural erectness, stability, crisp boundary phenomena and thwarts coriolis. Fibonacci type architecture is noted. Are perforce and signature respectively for regulation to disaster inflicting system. Solar Lunar rise and set periods are least stochastic windows – tends towards down regulation, decay.

Keywords: Super cyclone-1999; Sellenic alignment at perigee at syzygy; Buoyancy; nocturnal intensification; Diurnal traverse

1. Introduction

Odisha is a province on the eastern shore board of India, and has been reported to have tropical sea sourced cyclones and land based tornados [1]. It had also experienced the super cyclone of the century [2], and also meteorologically becaused sea surges [3]. Lunar gravity has been related to storm surge [4]. Tropical cyclones (TC) are phenomena of the lower atmosphere. In this study lunar gravity and full moon at perigee have been indicated to intensify TCs. In the last century, the Super cyclone 10/1999 (SC) that had hit Odisha (India). It had a graded intensification through a nocturnal cycle. It was full moon period. This aspect has remained unexplored. We examine the relationship between selenic phase, its alignment and

systemic intensification. Table – I presents the meteorological case history. It presents intensification in relation to time and place. Further, depressions assist hydrological cycles [5], severe cyclones do not wanton loss and even prove deleterious for established hydrological cycles. Additionally, in the SARC-ASEAN rim regions nations these type of study have not been considered by any scholar or by any disaster management agencies. Our added interest in the fact that lunar phases are also associated with vector borne diseases [6]; while system pass periods and post pass periods are associated with a range of acute clinical manifestations and even fatality [7;8].

Data and Methodology

Table I: Meteorological History of the Super Cyclone of Oct 1999

Date	UTC	CP – hPa	CI	G-L	L
26 / 10	0300	1002	CS	13.5N / 95 E	---
- do -	1200	--	- do -	14 N / 94 E	---
27/10	0300	992	SCS	16N / 92 E	800 EP
- do -	1200	976	SCS	17N / 89 . 5 E	600 EP
- do -	1500	- do -	VSCS	- do -	- do -
28/10	0300	- do -	- do -	18N / 89 E	350 EP
- do -	1200	956	- do -	19N / 87 . 5 E	180 EP
* - do -	1800	926	SC*	19.3N / 87.2E	130 EP
29/10	0000	- do -	- do -	19.6N / 87 E	75 EP
- do -	0300	- do -	- do -	19.9.N / 86.7E	25 EP
- do -	0430	- do -	- do -	Shore Cross	---
- do -	0900	- do -	- do -	20.2 / 86.2E	---
30 / 10	1200	- do -	VSCS	- do -	---
- do -	1500	--		Rapid decay sets in.	

Data ; curtsy, Dastidar & Jena2000[9].

Index for T- I : NG – nocturnal genesis ; FR – first report ; G – D = genesis to destination (corrected as a straight line); a , c , d , f , g & j - segments traversed diurnally ; b , e & h – segments traversed nocturnally ; Black dots indicates locations of intensification in relation to time and place on the geographical grid. 1 – CS ; 2 – SCS ; 3 - VSCS & star 4 - SC ; to be correlated with Table –I & its Note.

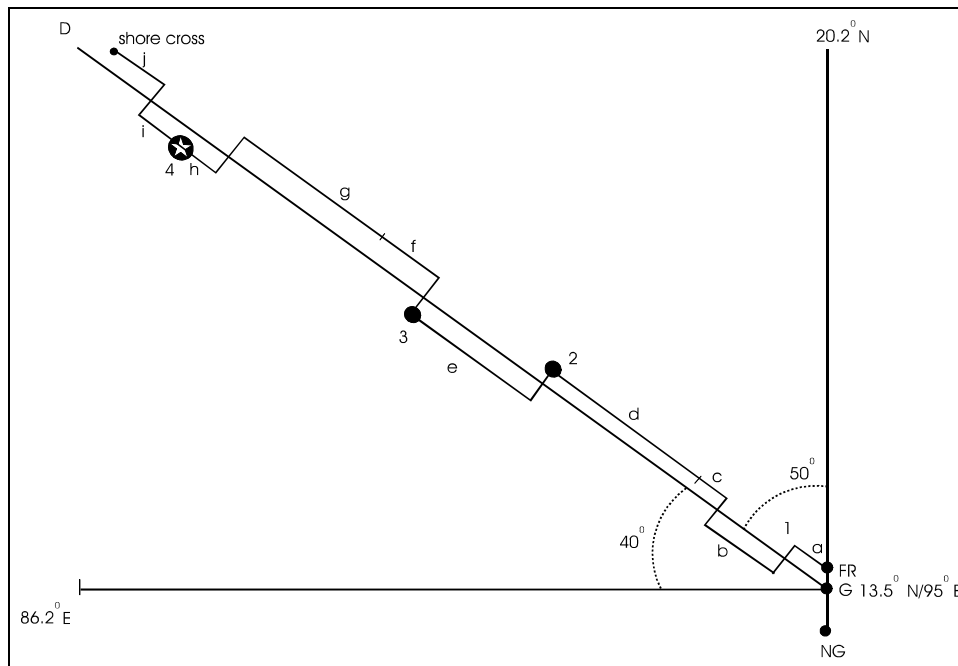


Figure - 1 drawn as per Table –I. Shows Geo grid; path traversed; day-night intensification locations.

Index (Fig-1): D - date ; UTC – Universal time constant (GMT) ; * - SC , Super cyclone status ; ECP- estimated central pressure in hecta pascals (hPa) ; Cl (classification) – CS -cyclonic storm ; SCS – severe cyclonic storm ; VSCS – Very severe cyclonic storm ; SC – super cyclone. G – L – Geographical location; L– location in ref. to E-P - East of Paradip.

Fig-1 transpires out of Table-I. It has been reconciled At location 28/10/1200UTC i.e. LT 6 PM and 28/10/1800UTC i.e. LT mid night the system further re-intensified to SUPER CYCLONE status. Moon rise $^{\circ}$ lat. is similar between 5° N & 15° N (zone- A) and 15° N & 25° N (zone- B) with a time lag of only 5 minutes. Oct 24 of 1999 had full moon at 2104UTC, while perigee occurred on 26/10/1999 at 36,09 km., aligned with the northern latitude (dtp).

In reference to Table I genesis of the system was reported 1st on 26/10/0300UTC which means (i) Germination was during the nocturnal hours of 25/10/1999 (ii) First Report was available on 26/10/1999. Both positions are in zone A (Fig 1).

Fig.1 is vital to our topic and is a good tool in the hands of cyclone forecaster and disaster management agencies. This type of schematic cum graphical presentation is also 1st of its kind.

3. Discussion

At location 26/10/1200UTC it was 6 PM local time (LT) and approximately 24 minutes pre moonrise LT. The system then had a classification of CS which at location 27/10/0300UTC i.e. LT 9.26 AM (full night + $3\frac{1}{2}$ hrs of the next morning) during which period the system intensified to SCS status. At location 27/10/300UTC marks the beginning of zone B. At this location it was LT 6 PM whence the system remained stationary till 27/10/1500UTC i.e. LT 9 PM by which time the system re-intensified into VSCS status. Moon rise at such location was at 7.34 PM of LT.

As per data in Table – I we can also deduce the following.

Between location 26/10/000UTC and location 27/10/300UTC the system had traversed approximately 200 nautical kms in 24 hrs.

Between location 27/10/000UTC and location 27/10/1200UTC the system traversed approximately another 200 nautical kms in 9 diurnal hrs

Between location 27/10/200UTC and location 27/10/1500UTC the system had remained stationary (moon rise period LT), whereas it intensified from SCS to VSCS status during this 3 nocturnal hrs which followed one hour post moon rise LT.

Between location 27/10/500UTC and location 28/10/300UTC of which 6 hrs was nocturnal and 3 hrs, was diurnal of the following morning. Thence, the system traversed 250 nautical kms.

Between location 28/10/000UTC and location 28/10/1200UTC the system had traversed another 170 nautical kms in 9 diurnal hours

Between location 28/10/200UTC and location 28/10/1800UTC the system had intensified to SC status and had traversed only another 50 kms in 6 nocturnal hours, which means intensification was more than positional displacement.

Between location 28/100800UTC and location 29/100000 UTC the SC system traversed again another 55 nautical kms. in another 6 nocturnal hrs.

Between location 29/100000 UTC and location 29/10 - 43000UTC the SC system traversed again another 60 kms. (50 nautical + 10 land) in 4 ½ diurnal hrs whence it crossed shore line and localized on land.

At all locations dawn and dusk periods are neither noted for systemic intensification nor for spatial displacement. In relation to our topic, it is theorized that these two window periods provided most unstable atmospheric conditions and therefore were inflicting down regulating mechanics. It is also noted that whenever moon rise precedes dawn or dusk by a margin of 90 minutes down regulation does not happen.

Moon rise on 29/10 in the area of interest was at 9.50PM – LT (1620UTC) whereas shore cross happened at 0430UTC. At 29/10200UTC (6PM–LT) the moon was ¼ away at sun set and on the opposite hemisphere at 0430UTC of 29/10. Therefore the downregulating dawn/dusk effect was not present during the system's life cycle, which may have been another under lying factor.

This means Bhattacharya's [10] and Rosefield's [11] concepts of interdicting a killer cyclone by hygroscopic seeding would also yield better results if done during 'Dawn' and 'Dusk' (local time). In other words, since the dawn and dusk in the tropics are at best of 60 minutes duration the best window is also reduced. This means any effort to down regulate killer cyclones has to be a well drilled exercise with at hand ready logistics, and may necessarily involve force and exair force and giant transport aircrafts.

Onset of decay kinematics was noted at about 29/102300UTC (30/105 AM–LT). Rapid decay set in at about 30/100900UTC (3 AM–LT), while petering out set in around 30/10200UTC (6 PM–LT). Moon rise on 30/10/1999 at 20°N / 86°E was at 1731UTC (1031 PM–LT). The data of Table– II when juxtaposed with that of Table– I and Fig. 1 also confirms that there is coincidence between the system's decay timings and dawn-dusk schedule.

Table – II - a (India Govt., 1999) for the central meridian of India 82.½°E. All Lat.

Date	Moon Rise	Moon Set
26/10/1999	19 19	17 15
27/10	20 14	8 18
28/10	21 13	9 20
29/10	22 12	10 22
30/10	23 12	11 22

Table – II - b for + 13° 4' lat. i.e., for Chennai

Date	Moon Rise + 10° lat.	Moon Set + 10° lat.
26/10/1999	19 129	7 031

27/10	20 093	8 043
28/10	21 080	9 064
29/10	22 078	10 080
30/10	23 071	11 075

Table – II – c for + 20° lat. for the central meridian of India 82.½°E

Date	Moon Rise + 10° lat.	Moon Set + 10° lat.
26/10/1999	19 129	7 031
27/10	20 093	8 043
28/10	21 080	9 064
29/10	22 078	10 080
30/10	23 071	11 075

4. Co-Relationing

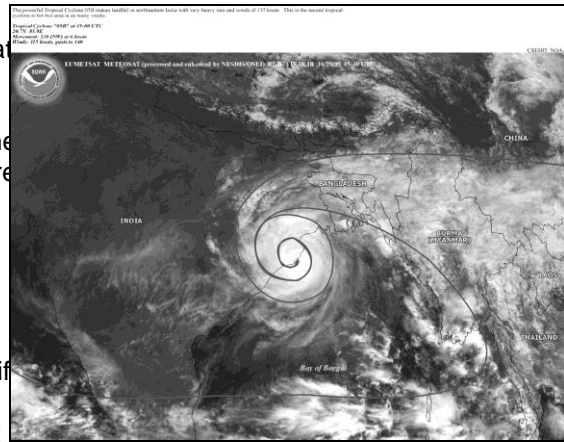


Figure 2: Super cyclone of 1999, Odisha, India, at land fall, Figure courtesy NOAA – see Ref 12.

It is relevant to relate, that, the moon rises with a diurnal lag of 54 minutes and while at perigee takes around 5 hours to attain apparent zenith. Luni gravity makes the saturated clouds and neighbour hood atmospheric fluid mass significantly buoyant. This imparts additional dynamics as with monsoon drafts [14]. Thus, dense banks of moisture initially experience Brownian motion, congregate (centripetal), collate, ionize; form ionic boundaries; form corridors; gain velocity; become unidirectional (yet non-stratified); gain corollary momentum (primarily due to mass, which is large, suspended over a rotating sphere along a near tangential line) in the direction of selenic transit; maintaining much higher rate of forward motion, more particularly when the moon is in perigee at syzygy. In the case of TCs in the northern hemisphere the following natural conditions act as additional up regulators (i) number of astral bodies that are aligned with the ecliptic (ii) thence the ecliptic being aligned with the latitude of system pass (iii) west-east geostrophic rotation (iv) interannual period i.e., disrupted Hadley's Cell & consequent weak atmospheric general pressure condition (v) normal horizontal component of the thrust of the ocean atmosphere couple (vi) flat plain/delta

4.1 Form Function - Intensity & Fibonacci

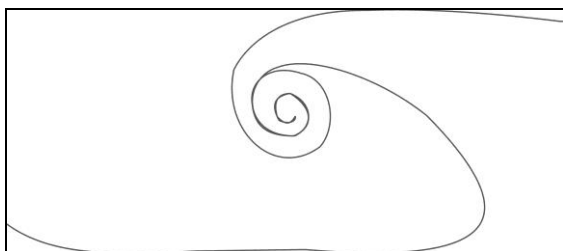
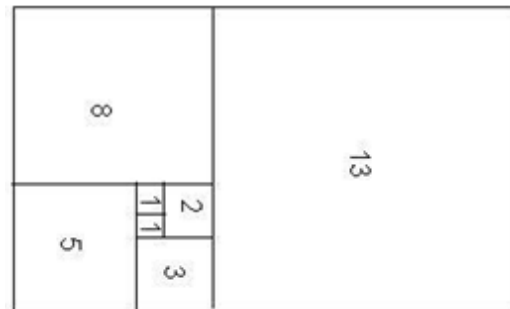


Fig- 1 is drawn on the platform of Table- I and has a integer with Table - II a-c. It proves nocturnal germination and spatial displacement i.e. 3 nights

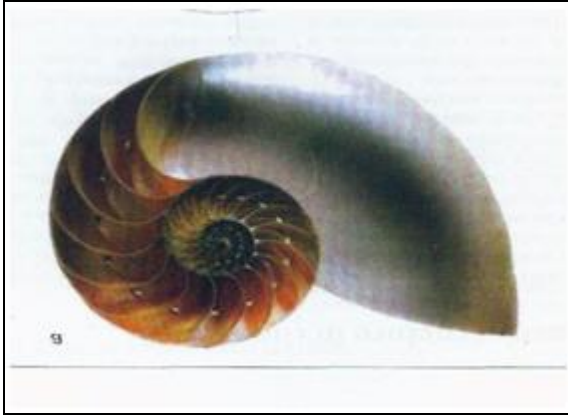


Figure 6: as a Nautilus – natural (benthic animal)

Fibonacci number is natural [1]. We make a brief comparison of Fig. 2 and Fig. 3 with Fibonacci concept. Fig. 4 is the spatial method of representing Fibonacci with relation to area. Fig. 5 is the common arc that passes through each of the constituent Fibonacci area demarcating another Fibonacci within each of the boxed areas using the arc method of area/space demarcation. Internal symmetry and synergy of the line of forces are borne out. Homology is noted between Fig 3 with Fig 4 to 6. Fig 6 is that of the nautilus snail {a giant fossil can be seen at Indian National Museum, New Delhi; suggests its local availability}, which is also considered as a typical biological example. This is graphical route of compare. This yields a connection between the ‘size function theory’ of TCs as articulated in this journal [22]. Our findings indicate for the first time that attainment of Fibonacci Form structure is critical for any VSCS to become a SC. We find that selenic alignment (astronomical gravity) assists in the attainment of Fibonacci type of architecture; which in turn can be related to {i} systemic stabilization {ii} destructive potential. That the above two functions start getting upregulated at size: 2.25 until attainment of 1.16 i.e., most efficient system; followed by decay – primarily due to geomorphological features and geographical repositioning (supporting information). In Sec. 3 we have discussed ‘natural dynamic lock’. In this regard too the Fibonacci architecture posits well. Some systems (alike Fig 2) have elevations up to the tropopause which also portends ‘natural dynamic lock’ and collinearly precludes the Fibonacci form i.e., a *vice-versa* relationship. Additionally, a ‘template’ may be considered wherein various stages of the evolving nautilus shape/Fibonacci form would indicate a corresponding ‘T’ factor (Form – Function Template or even a computer model).

4.2 Mid Pacific T C & Fibonacci

Tropical warm sea surface offer optimum conditions for TCs mechanics (well known). Among the tropical seas, the mid Pacific region offers the most best ideal conditions from meteorological and spatiotemporal perspectives. It is also marked for year round VSCS

known in American parlance as ‘tornadoes/typhoons’. Therefore, we trace one such system from genesis to decay (in brief) and try to geometrically evaluate the gross architecture from Fibonacci perspectives. The geometrical basis is developed using CAD ZW2014 (architectural engineering platform). The satellite images (Fig 7a to 7e) in the 1012µm infrared range have been down loaded with thanks (& grateful acknowledgement) from the Dundee University satellite centre archive, being derived from the European geostationary MTSAT satellite located at about 140°E longitude, as on 1st Oct., to 5th Oct., 2019.

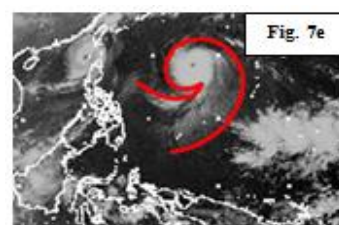
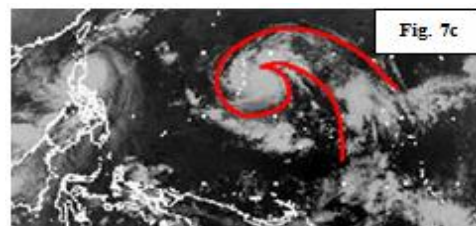
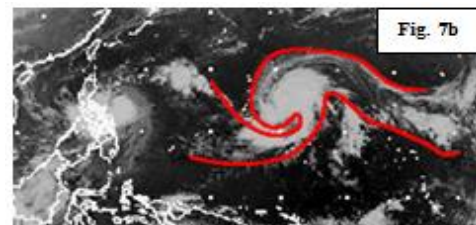
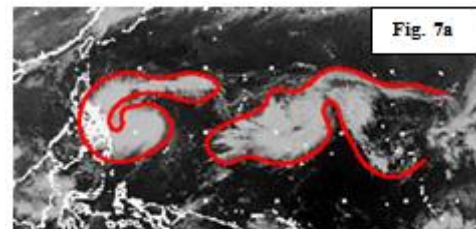


Figure 7a- to 7e: show the evolution of Super Cyclone in the mid-Pacific, 140°E longitude, on 1st Oct., to 5th Oct., 2019. Fibonacci form evolution is also noted. Schematic compare and contrast observation with land afar/mid ocean conditions. N hemisphere.

Figure series 7a to 7e are taken at 00UTC at 24hr separation starting from -10-2009 to 510-2009. In Fig 7a there are two systems. One is near the Philippines islands and the other is in the mid Pacific. The mid Pacific system seems to have developed a region of 'low' (occurred precipitously with a 'eye' like hole at centre as alike lows created by any incendiary). Clouds are seen racing into such 'low/hole' radially. There is no circular flow neither any spiral. In Fig 7b such central hole does not exist. The Philippines side system has almost dissipated and there is gross alteration in cloud flow pattern. Part of the Philippines systems is seen merging into the mid Pacific system. This means a part of the clouds from the Philippines side system has sheared off and has flowed eastward (which is reverse of the geostrophic rotation), while the cloud masses from the western hemisphere are seen flowing towards the eastern (as per normal flow). This is a very unique stochastic of the energy basket conditioned due to barotropic gradient. Cloud is energy. And, most part of such energy feed is noted to extend even across the International Date Line (inter-hemispheric). This means, it is a very intense system in the making. In Fig 7c the spiral form is evolved, while the system has become angular. In Fig 7d the eye, the disc, and the cloud feeder channel have formed with a distinct Fibonacci type format, while the system is meridional (vertical). In Fig 7e the system has further altered orientation while consistently traversing westward. We can additionally see that the cloud parcels (Fig 7c & 7d) within the feeder channel are flowing as alike a stream, wherein the speed is high i.e., indicate high Reynolds as in Fig 2 & 3. Such a stream has crisp boundary phenomena and compares more well with the Fibonacci format (hence Fig 5 is superposed on to it for topical levity. The cloud mass pathway is the energy channel. It collinearly also acts as an uncinate cum balancing boom (the system to remain erect) in free atmosphere [23]. Why balancing boom? Because the disc is ultra heavy and hence required an offset. The system (that has formed) in the east China sea also has a nautilus spiral format.

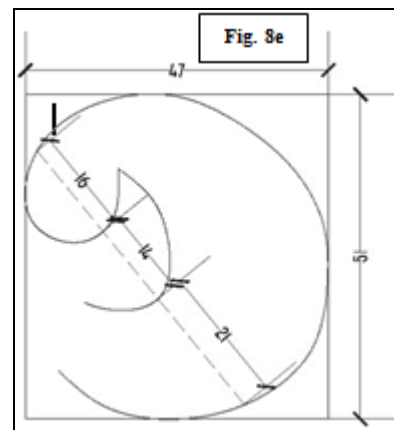
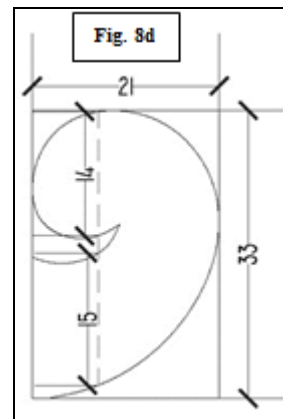
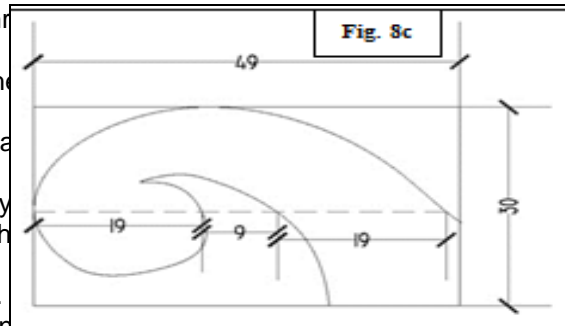
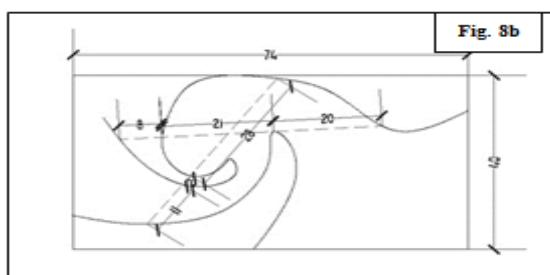
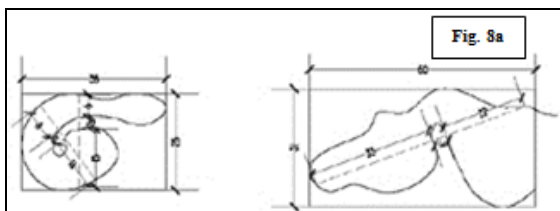


Figure 8a- to 8e: Gives the outline sketches of the stages as in Fig. series 7a-7e. Cross sections have been indicated to levitate the topical import.

Intensification causes compaction; decay causes expansion. Meridional orientation heralds faltering\weakening stochastic.

Fig 8 series provides us with the following insight. Genesis is architecturally not definable. It suggests conjugation of cloud masses. Thereafter there is rapid development of smooth mobius curves and streamlining of the outline. The spiral zone (spinning disc) compacts with an enlargement of the measures of the cloud feeder channel with simultaneous constriction of gap (high pressure clear sky region) between the spinning disc and the cloud feeder column. Our outlining is arbitrary, gross and less. Nevertheless, they present images that are quite relevant and vernal. Since the (energy) feeder channel's measure enlarges with systemic

intensification let us take the measure of the depicted stochasticisation down regulates. Decay sets in. stages of our candidate system. In diagram 8c we note the measure 19-19 which works out as an ratio of 2-1: 1: 2-1(19:9:19). In diagram 8d & 8e we note the measure 16-21 which works out as a ratio of (16:21) i.e., 1 3-1 & for (14: 21) as 1 1-5, respectively. In diagram 8c if we add the measures of disc and that of the gap it then totals to (19+9) 28, the ratio of which is 19:28 which works out as: 3-1. Similarly, if we add the corresponding values as in diagram 8d (16+14=30) we then have a ratio of: 2-0 which in Fibonacci terms is: 11-42 (very close to the magic number of 1 1-6). All this in spite arbitrary placement/orientation of the cross section line.

In diagram 8e we note the measure 14-5 which works out as a ratio of (14:5) i.e., 1 1. It heralds decay mechanics. Fig. 9 indicates that the length dimension of the energy feeder channel has shrunk considerably. We may also aver that in the northern hemisphere when the feeder channel is collinear with the parallels the systems regulate. When they be angled to the meridians they are at peak performance levels (most synergic energy flow and conservation). When decay mechanics sets in the cloud/energy feeder channel gets to be vertical. This is also the end stages of (geometrically near perfect) smooth mobious curves. Thereafter, once again nondefinable architecture becomes the hall mark. This is typical & unique to the eastern Pacific. In other seas such as the Arabian; the Bay of Bengal; west Indian ocean off Madagascar coast and the seas around northern Australia have their unique typicalities (supporting info).

4.3 Lunar Phase Aspect

During the 1st week of Oct., 2009 the full moon was on 04-10-2009 (across Pacific). Our images are that of diurnal period (local time, eastern Pacific). Thus we note (as alike in Fig. 3) intensification was nocturnal being associated with the full moon pass. Our candidate system germinated in mid Pacific and decayed in eastern Pacific (all on high seas). Forward displacement was more during the diurnal hours being associated with solar pass as alike Fig-1. This also means that luni gravity (which is 1/7 of the terrestrial gravity) acts as a limiting factor (gravitational lock) vis-à-vis rapid forward motion. In other words, slow forward motion is associated with heightened entropy (intensification). Fast forward motion is associated with heightened enstrophy (more energy escapes induction is less). Entropy is more associated with time, which in turn is more associated with energy entrapment. Motion is more associated with space which in turn is more associated with heightened energy escape (enstrophy). Enstrophy is deleterious for the system. This is because, greater length dimension of the looped nautilus arc leads to a mismatch between energy requirement versus well marked TC of the southern hemisphere. In the injection per unit of time. *Inter alia*, whence enstrophy becomes the dominant phenomena, system

During the same period (1st week of Oct., 2009) the trajectory of the moon was across the Philippines island and that of the sun was in the southern hemisphere (across the doldrums which act as meteorological wall). Therefore, there was no syzygy phenomena i.e., the sun-moon-earth were not aligned (absent also in the case of Fig. 2). The system is noted to have taken a northwesterly trajectory. This apart, the moon was at perigee on-10-2009 (3,69,00Kms) and at apogee on 25-2009 (4,04,00Kms), respectively. Thus the moon was neither at perigee nor at apogee during the event week. Ingrid had a very short post land fall life (decay precipitously). And whereas, in the case of the India, Super cyclone, 1999 (Fig2) the moon was at perigee. Thence too there was no syzygy. Had a very long on land life with high speed flows. Thence too the sun was well past the 8th lat. Thus, selenic phase & alignment is the reckon.

We now examine our hypothesis with a prominent & well marked TC of the southern hemisphere. In the case of Ingrid, north-east Australia, 08-05-2005 (Fig 9a) we note the distinct nautilus spiral and the



Figure 9a: Super Cyclones, 'Ingrid', north-east Australia, 08-05-2005. Inverted Fibonacci in S hemisphere context

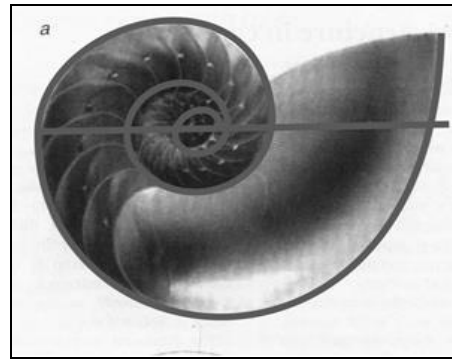


Figure 9b: The Nautilus when inverted. Be viewed in S hemisphere context.

homology with the Fibonacci architecture. The sun was thence way afar aligned at about 15° lat. All these issues vet the our caption i.e., only the lunar phase (astronomical counter gravity caused by the full moon) is the overriding influencing factor for the life and intensification. In other words (effective) buoyancy is important (mathematical calculation possible). However, Fibonacci type architecture i.e. the spiral form is caused due to the innate character of compressible fluid flow on a rotating sphere (fluid mechanics).

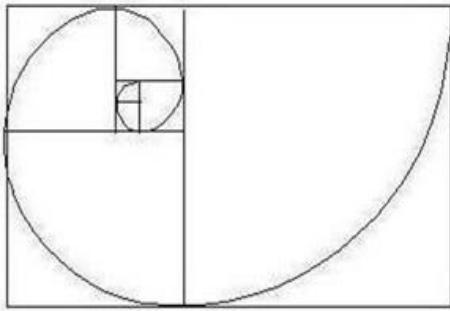


Figure 9c: Fig-4 in S hemisphere context. Fibonacci type of flow in cyclones in the S hemisphere is inversed - due to Coriolis Effect.

Another interesting aspect that emerges (when we apply the Fibonacci model) is that the nautilus curve of the energy feeder channel is pole oriented. In the northern hemisphere it is oriented toward the north pole, and in the southern hemisphere it is oriented toward the south pole, respectively (Fig. 9). This is because on a rotating sphere compressible fluids experience compaction due to reduction of space (spatial constriction) towards the poles and consequent compaction. In turn causes piston effect and imports therm from the surrounding [24]. This causes higher speed of the fluid flow within the channel (a compared to the out), higher Reynolds, crisp boundaries, etc. High speed free flow-up regulates potential energy. All this translates as torque. Non pole oriented feeder channels (Fig. 9) do not experience such constriction mechanics and hence herald weak system and or decay. The inset of the nautilus and the Fibonacci graph have been set beside Fig. 9a to bring out such topical aspect in respect to the TCs in the southern hemisphere. Fig. 8 to 8e explains the same - à-vis the N hemisphere.

In case of Ingrid the new moon was on 05-2005. Study further indicates that in the southern hemisphere the new moon is associated with systemic up-regulation (in the northern hemisphere it is the full moon). This is because the annual average trajectory of the moon is more aligned with the northern hemisphere (which is due to stronger terrestrial selenic interaction due to more contiguous land mass & high rise geomorphs viz., Tibetan plateau, Himalayas; Alps & Rockies). Hence, the moon also experiences extremely northerly swing.

5. Geographical Aspect

The eastern hemisphere is home to most of the economically weak and shore beside living -sub populations on the globe. They being innately dependant on the seas and the littoral zone for sustenance. TCs have been killing, maiming and inflicting wanton loss among such vulnerable societies. TCs are a near regular feature in the eastern hemisphere. We have presented data about the super cyclone 1999; mid-pacific VSCS and Ingrid of 2009. They cover a period of 10 yrs. Meridionally belong to the eastern hemisphere. Latitudinally belong to the northern tropics, and the southern tropics, respectively (i.e. N & S hemispheres). The geo domains of the three systems also present stark variations spacio temporal, orography, hinterland geomorphology and meteorological perspectives. The moot point is that, our caption (selenic alignment & consequent counter gravity) and our mathematical model of the Fibonacci holds good.

6. Discussion

Fibonacci is a pure mathematical tool. It is a number, a fraction and a (constant) ratio. It is also an geometry form and has lot of applications in engineering and architecture (design & fabrication). Hence, Fibonacci is a versatile member. From genesis to decay tropical sea based cyclones & mid-land based tornadoes have natural designs. Such severe weather natural events are governed by fluid mechanics [25]. And buoyancy is an important component. In atmospheric conditions, buoyancy imparts 'head' to the water mass that is held aloft high in cloud form. The general idea is that with buoyancy failure there will be rains (moisture throw down). This study drives home (a new interesting) view point that confirming to such geometric architecture means 'Large volume with high head, even deep inland progression'. Whereas, whence severe weather cloud mass starts infracting such Fibonacci form- it portends decay dissipation- less ground reaching rain- it also does not confabulates neither militates against the classical method as indicated in Table 1. Fibonacci has been used for the first time to throw some light in this direction. The current national focus is on multidisciplinary mathematical models using various numbers- as because software applications become more accurate and meaningful.

7. Conclusion

The period of intensification was primarily nocturnal. In spatial displacement a gross 355 (1:1.85) ratio is noted between nocturnal and diurnal phases. Again 40: 50 (1:1.25) ratio is noted between the complementary angles in relation to the earth's central inter-polar vertical (track path Fig. 1), i.e., collinear with the diagonal of the geographic grids, resulting in nil coriolis effect (ideal track). The average of these two ratios = 1 1.55 is also close to the Fibonacci number of 1 1.6 which is reckon nature. Such

geometrical values impart to the (otherwise unstable) economic. None of these aspects have been discussed in the Official deliberations or in the dedicated publication of the Govt. of India (see Ref.2), and having an admixture of ultra volume of water suspended by luni gravity and compressed by air. Hereafter till date. This communication is a multi set of smooth mobile curves & surfaces; repetitive disciplinary work. This is an original cumst time cyclic arcs arise out of the reducing spiral bands during paper. Apart pure academics this type of study is to the ever enhancing horizontal component of the real time value for SAARC & ASEAN nations.

thrust exerted by the high pressure regions that builds and enlarges all around Fig.2. The meandering

moisture/cloud inflows (are energy loaded) along an inclined path forming cloudy pathway. This also acts as a balancing boom. The Fibonacci type geometry of Physics and Mechanics of the Super Cyclone in the architecture imparts preferred shape, minimum volume (i.e., preferred size), preferred path, high compaction, assists high enthalpy, structural form and maintain super charge. Which in turn contributes to high gyration, entropy, structural erection and system maintenance. Waxing selenic alignment perigee in syzygy (timing), imparts increasing bouncy and traditional knowledge aspects and who all have (not constant; enlarging) to systems having such mechanism; geographical locus; interannual period, Numerous multidisciplinary experts have also which is why, solid state bottom friction is withstood encouraged this works, IMD officials from Jor at full force for long duration.

In the case of the mid Pacific event, we also note the relevance of Fibonacci model positing as relevant and as capable of throwing interesting first time transpirations about system behavior (during intensification and dissipation). Lunar astronomical gravity intensifies, and whereas, solar astronomical gravity-heat couple with geostrophic rotation causes spatial displacement. Thus, size based function have some relationship with evolution, intensification. Attainment of Fibonacci is more related to buoyancy imparted by selenic and helenic alignments (astronomical sources). Buoyancy harks evolution of gravity wave phenomena i.e., enstrophy mechanics. On the other hand assists cloud mass congregation i.e., energy basket. Weak enstrophy, large enhancing energy basket makes enthalpy in situ (natural rejection & selection).

System genesis and evolution is cause of ingression into continental regions and copious rainfall that harbringes bounty. Whereas, intensification spells disaster. We are also of the considered view that alphanumeric language alone will not be able to allow intensification forecast. Geometric language has also to be taken, additionally with principles of Fluid Mechanics. Even interannual period i.e., disrupted hadley's cell is not the paramount condition for inter-hemisphere feeder channel to evolve (Fig. 2) gyration intensification, neither for life period. Formation of the Fibonacci architecture is governed by the principles of fluid mechanics and hence system intensification can also be made more accurately by mere study of satellite images. With in situ and or remote sensing data the accuracy of the forecast may improve (real time computer simulation is eminent using the Fibonacci model). And, cross section based forecasts will be swift and much

Acknowledgement

The paper arose out on invite by Prof. Debendra Kumar Nayak of NEHU to present some Neo Aspects of Physics and Mechanics of the Super Cyclone in a International Conference 2003. It has taken 13 yrs since. The Indian Meteorological Society, Orissa, Mr. P.K. Jena and S.K. Dastidar of IMD Bhubaneswar have assisted with data. Of special mention are the personal communication relating historical, cultural, and traditional knowledge aspects and who all have encouraged me to write this communication. Numerous multidisciplinary experts have also encouraged this works, IMD officials from Jor division sneered (New Delhi). Between 2002-2015 Asian met org from Pak & China invited and praised yet could not find merit to publish. We dedicate these findings to the cyclone prone societies worldwide. This paper has taken us more than a decade to enable a compare and contrast study, before expressing our findings (more in subsequent communication).

Glossary

Selenic: Pertaining to the moon.

Fibonacci: Italian mathematician Leonardo Fibonacci who articulated in Latin language (modern mathematics) the ancient & yore Sankrit mathematical concept of 'Brihanka - pingala anka' (Great golden number series), wherein, the series comprises of 3-5-8-13..... and connotes an enhancement of 1.6 over the previous.

Feeder channel: The hypothetical band which forms as a parable around a TC and via which cloud parcels get injected into the system at the front.

Perigee: The orbital point where the orbiting body is closest to the earth.

Apogee: The orbital point where the orbiting body is farthest from the earth.

Syzygy: the alignment of the sun, the earth, and the moon.

UTC: Universal Time Constant – same as GMT.

Entropy: Convergence of energy due systemic conjugation.

Enstrophy: Systemic escape of energy from any energetic and or dynamic system or body.

Mobius: Scalable geometric curves and or smooth undulating lines.

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