

UMkhathilibe Ephaketheni Lami



UMkhathilib'osamQonga



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Amafufu aluthuli i-Orion. Iwona akhanya kakhulu ukudlula amanye amafufu emkhathini, kanti futhi akwazi ukubonakala nangamehlo.

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Sonke sesike sazibuka iziNkanyezi ebusuku. Zibukeka sengathi ziqhingisiwe ebumnyameni boMkhathi!

Lokhu kuyinkohliso nje. Akukho linya phakathi kweziNkanyezi, kepha kuno klibidibi loHoyana, amaChwe, kanye nobumbanomaChwe. Inani eliyizigidi noma izigidigidi elifukamelwe kwi mitha ntathu elilodwa.

LamaHoyana athutheleka phakathi neziNkanyezi kumafu aluthuthu.

Lamafu alufifi kanti amubalwa abonakala ngamehlo.

Ngosizo lweziPopolo zoMkhathi ezinkulu lapha emhlabeni kanye naseMkhathini, abafundindalo bomkhathi bakwazi ukubona ubunotho bemQongo yomkhathilibe kanye nokufafaza izithombe ezinhle zalemQongo.

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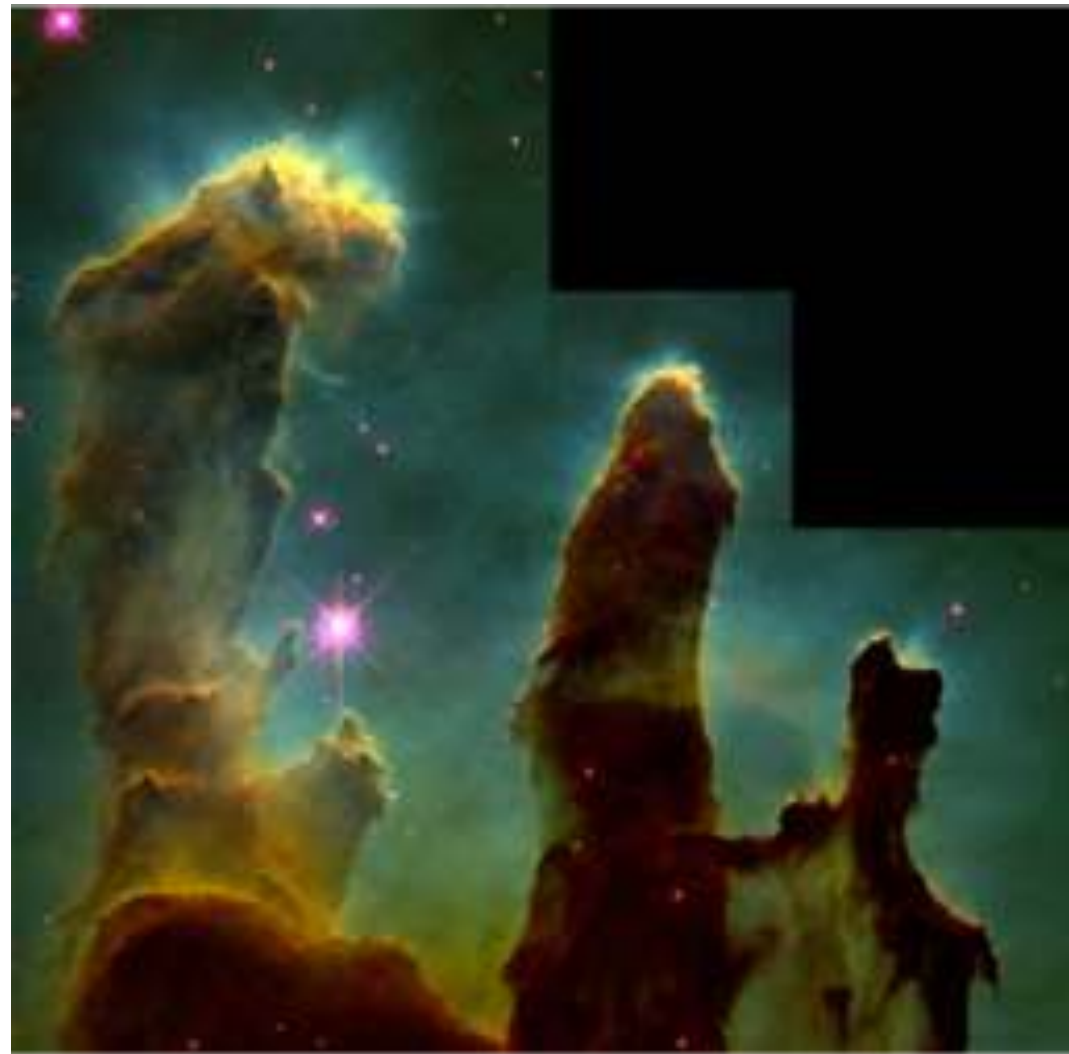
## Lapho kudaleka khona izinkanyezi

IziNkanyezi azingunaphakade: Njengabantu, ziyazalwa (ziyadaleka), ziguquguquke, beseziyafa.

Zidaleka emafini asiluvaluva amakhulu, ngezindlela ezingaqondakali kahlehle.

Lezizindlela zibandakanya imfingqoNyanda, okwevumela utho ukuthi ifinyelele kwisiluthu esiphezulu esitholakala phakathi emathunjini ezinkanyezi.

Ezinye zaleziziNkanyezi ezisanda kuzalwa (kudaleka) zishisa ngalendlela yokuthi zikwazi ukususa izinXelesi kumaChwe kulamafu ezizalelwe kuwona, okudala amafu aHonyozekile njenge-Orion.



Ingxenye yamafu aluthuli i-M16, ebizwa nge « Pillars of creation ».

Kusemafini anjengalawa lapho kudaleka khona iziNkanyezi ezintsha.

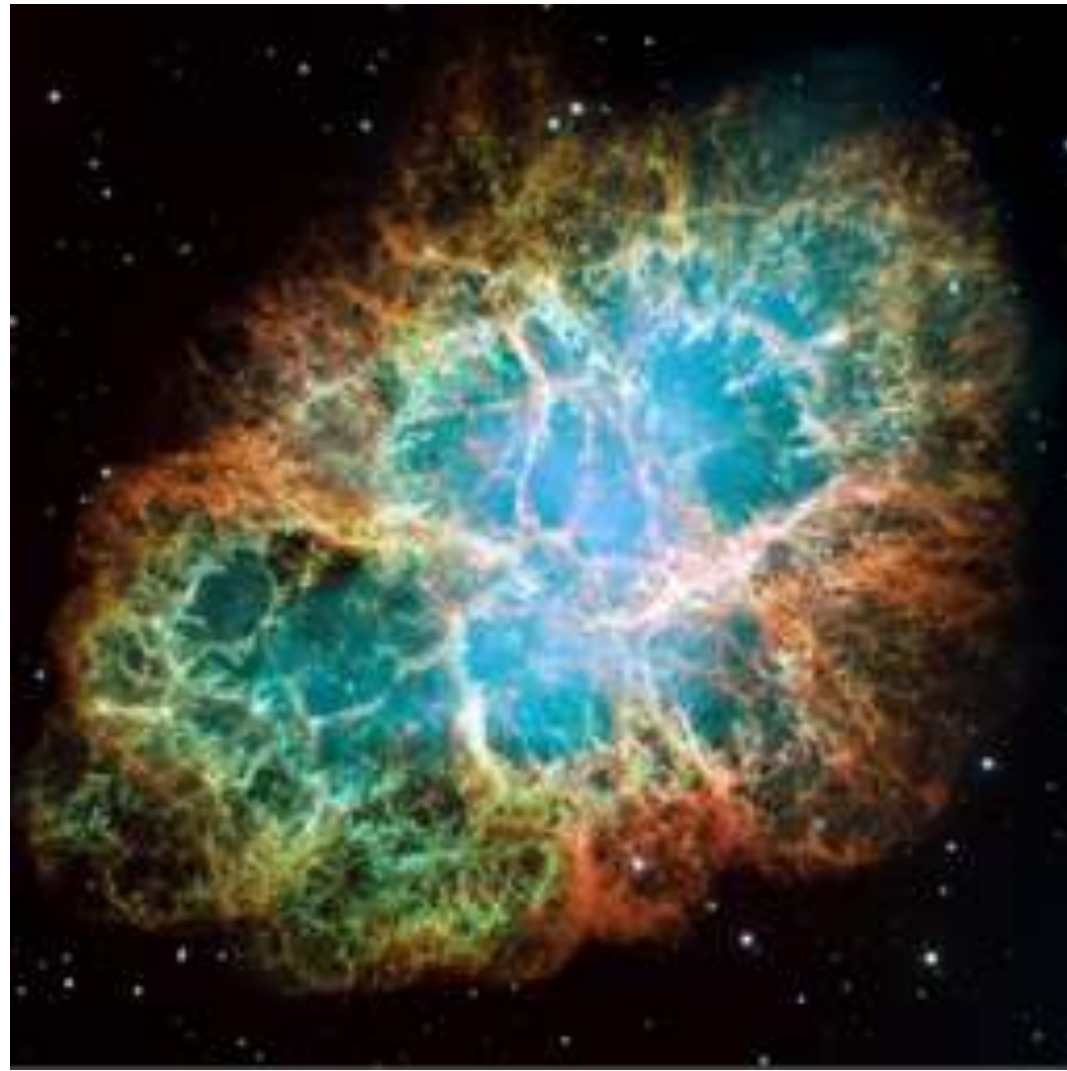
## Izinsalela zesiDangazelakazi

INkanyezi enesisindo esikhulu ifa ngokuqhuma okunamandla.

AbaFundindalo bomkhathi bakubiza lokhu ngokuthi « isiDangazelakazi », ngokuba babezitshela ukuthi babebona ukuzalwa (ukudaleka) kweNkanyezi entsha endaweni lapho khona kwakungekho Nkanyezi.

Sesiyazi manje ukuthi isiDangazelakazi kusuke kuwukufa kweNkanyezi, lapho khona iphalalisa eMkhathini lokho esuke ikwakhile empilweni yayo.

Izinsalela zesiDangazelakazi ziyimQongo, okuyilokhu okusalela ngemuva kokweqhuma.



UmQongo oqanjwe nge-Crab (iNkalankala).

Lezi izinsalela zesiDangazelakazi ukuqhuma kwaso kwaqoshwa abafundindalo bomkhathi base China ngonyaka we-1054.

## IsiDangazela

Izinkanyezi ezinesisindo esilingana neseLanga zifa ngendlela ezolile.

Ziyakhukhumala ngosayizi, zilahlekelwe ubuhalalazi bangaphandle, obukhanyiswa izinsalela zeNkanyezi, okudala lokhu esikubona njengesuDangazela.

Igama elithi « planetary nebulae ( isiDangazela ) » laqanjwa ngu-William Herschel ngonyaka we-1785 ukuchaza lezisiDangazela ngoba zazibukeka njengemiHlaba eziPopolweni zakhe zoMkhathi.

Wagcina ezisola ngokungazibizi nge-« stellar nebulae ».

UmQongo i-Helix planetary nebula. Lena enye yemQonga esondelene noNomkhubulwana eyaziwayo. Ukukhanya okuphafuzwa ilomQongo kuthatha iminyaka engama-700 ukufika kuNomkhubulwana (kanti ukukhanya okusuka eLangeni kuthatha imizuzu eyisi-8)

## ImiThalakazi

ImiThalakazi iyisicakacolo seziNkanyezi esingaquketha iziNkanyezi ezilinganiselwe kwikhulu lezigidigidi.

Ezinye zazo, lezo eziyingoqela noma eziyiqayinga , nazo ziqukethe inani eliningi lezithunqathunqa.

LemiThalakazi isadala iziNkanyezi, kanti futhi iqukethe iziNkanyezi « ezintsha » ezineminyaka elinganiselwe kwizigidi ezimubalwa.

Eminye imiThalakazi, leyo isimo sayo esisaBhola lombhoxo, ayisazidali iziNkanyezi. Zonke iziNkanyezi zayo sezigugile, ezinye zazo zineminyaka elinganiselwa kwi-10 lezigidigidi ubudala.

Kudala imiThalakazi yayibizwa « ngemQongo » ngenxa yokuthi kwakungakaziwa ukuthi zazakhiwe isicakacolo seziNkanyezi.



UmThalakazi i-Spiral galaxy M101. LomThalakazi uyafana noMzilafasimbe. Ezingalweni eziyizingoqela, kuyilapho kudaleka khona izizukulwane ezintsha zezinkanyezi. Kuqukethomagama lemfundandalo yomkhathi yase France u-Charles Messier olafafazwa ngonyaka we-1781, lomThalakazi uchazwe « njengomQongo ongenaNkanyezi, olufiphi & omukhulu impela ».



Amafu aluthuli i- Horsehead nebula.  
Yakhiwe ngemizwayi exutshwe nomoya.

## Amafu aluthuli

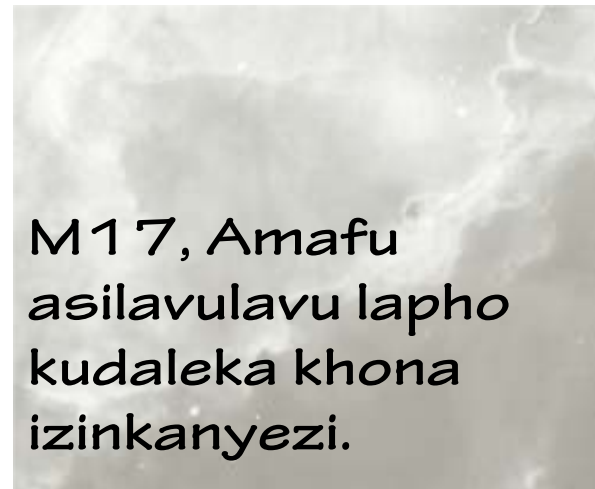
Ezithombeni zemiQongo kanye nemiThalakazi, kuye kubonakale izindawo ezimnyama. Lezizindawo zakhiwa ukuqoqelana kwemizwayi yothunqathunqa phakathi kwezinkanyezi.

Lemizwayi, engabonakali ngamehlo eyakhiwe ngoHoyana leCalahle noma leSiphemba olumkhumanqa, igwinqa impekumpeku kwiWigo elibonakalayo kwizinkanyezi ezisondelene nayo.

Ngenkathi amazinga abo okushisa ehla, bakhapha ukukhanya okungabonakali ngamehlo kodwa okukwazi ukuhlongwa iziPopolo zoMkhathi ezakhelwe ukuhlonga lengxenye yeWigo.



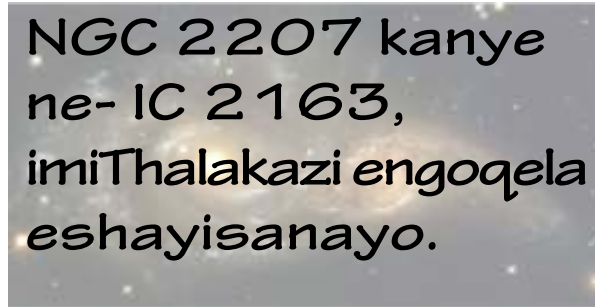
Uyazibona lezi  
zinhlobo  
zemiQongo?



M17, Amafu  
asilavulavu lapho  
kudaleka khona  
izinkanyezi.



IsiDangazeleka  
zi i- SN  
1987A.

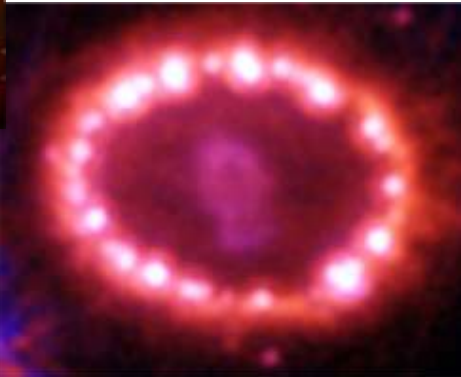


NGC 2207 kanye  
ne- IC 2163,  
imiThalakazi engoqela  
eshayisanayo.



IsiDangazela i-  
IC 418,  
esibizwa nge  
« spirograph  
nebula ».

## Imibuzo



Izimpendulo  
zitholakala ku-  
overleaf



The Unicorn:  
Ingxenye ye-Trifid  
nebula esithwe  
uthunqathunqa.



# Umkhathilibe Ephaketheni Lami woku-1

LeNcwajana yabhalwa ngonyaka wez-2013, ibhalwa ngu-Grażyna Stasińska wase Paris Observatory (France) yaphinde yaningilizwa ngu-Stan Kurtz wase-UNAM Radio Astronomy Institute e-Morelia (Mexico).

Inikelelwe kwizingane zesikole i-Choroní (Venezuela) kanye nemindeni yazo.

Ikhava yangaphambili ikhombisa umQongo obizwa nge-Cat's Eye. IziThombe kuleNcwajana zitholakale ngosizo le-ESO large telescopes kanye ne-Hubble Space Telescope. Zihlinzekwe izinhlangotho i-NASA, i-STScI kanye ne-ESA.



Uma ufuna ukufunda kabanzi ngaloluChungechunge kanye nezihloko ezethulwe kuleNcwajana, sicela uvakashele u-<http://www.tuimp.org>

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