

UMkhathilibe Ephaketheni Lami



UMkhathilib'osamQonga



Grażyna Stasińska
Paris Observatory



*Amafu aluthuli i-Orion.
Iwona akhanya kakhulu ukudlula amanye
amafu emkhathini, kanti futhi akwazi
ukubonakala nangamehlo.*

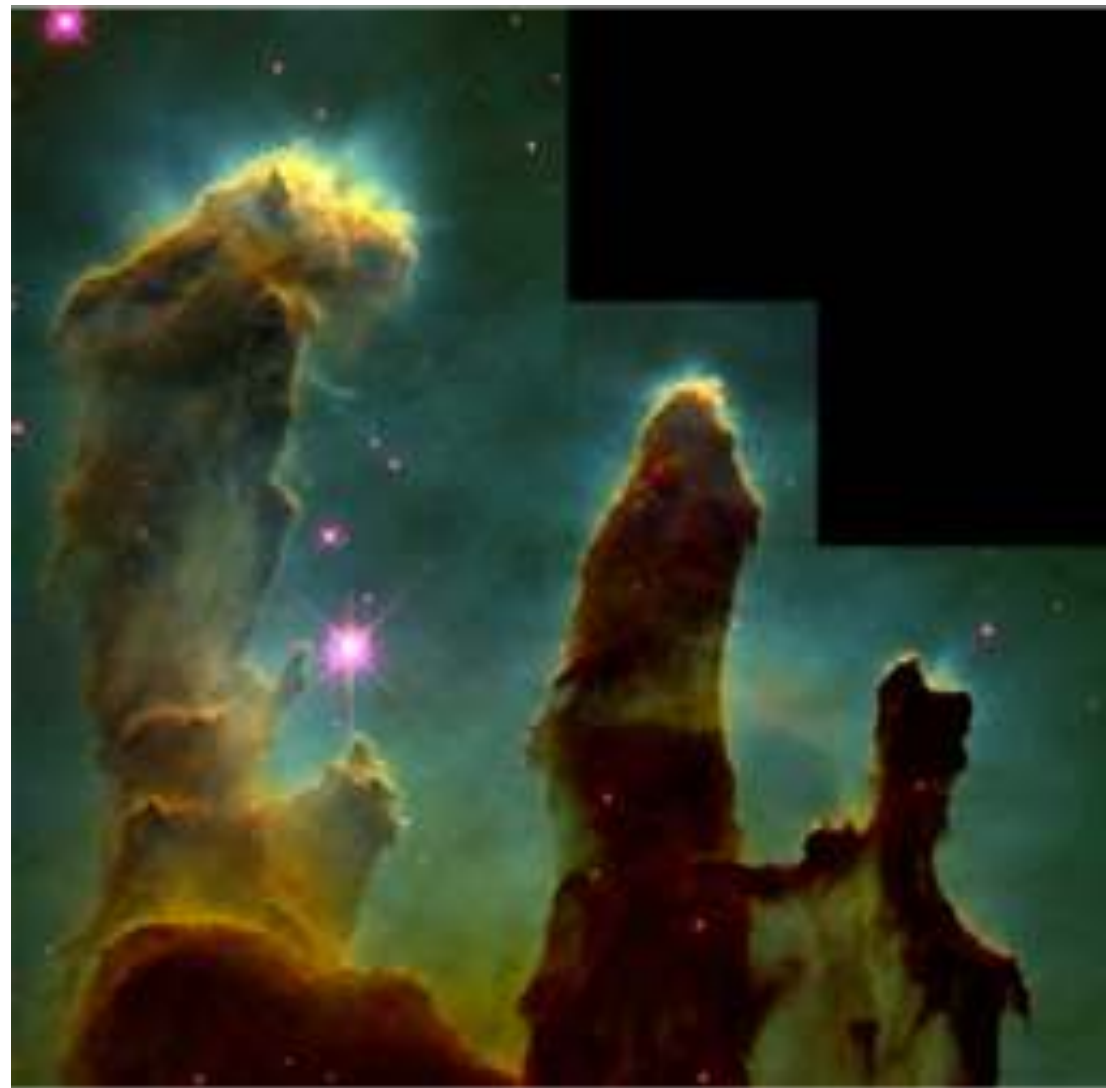
Sonke sesike sazibuka iziNkanyezi
ebusuku. Zibukeka sengathi
ziqhingisiwe ebumnyameni boMkhathi!

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.



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

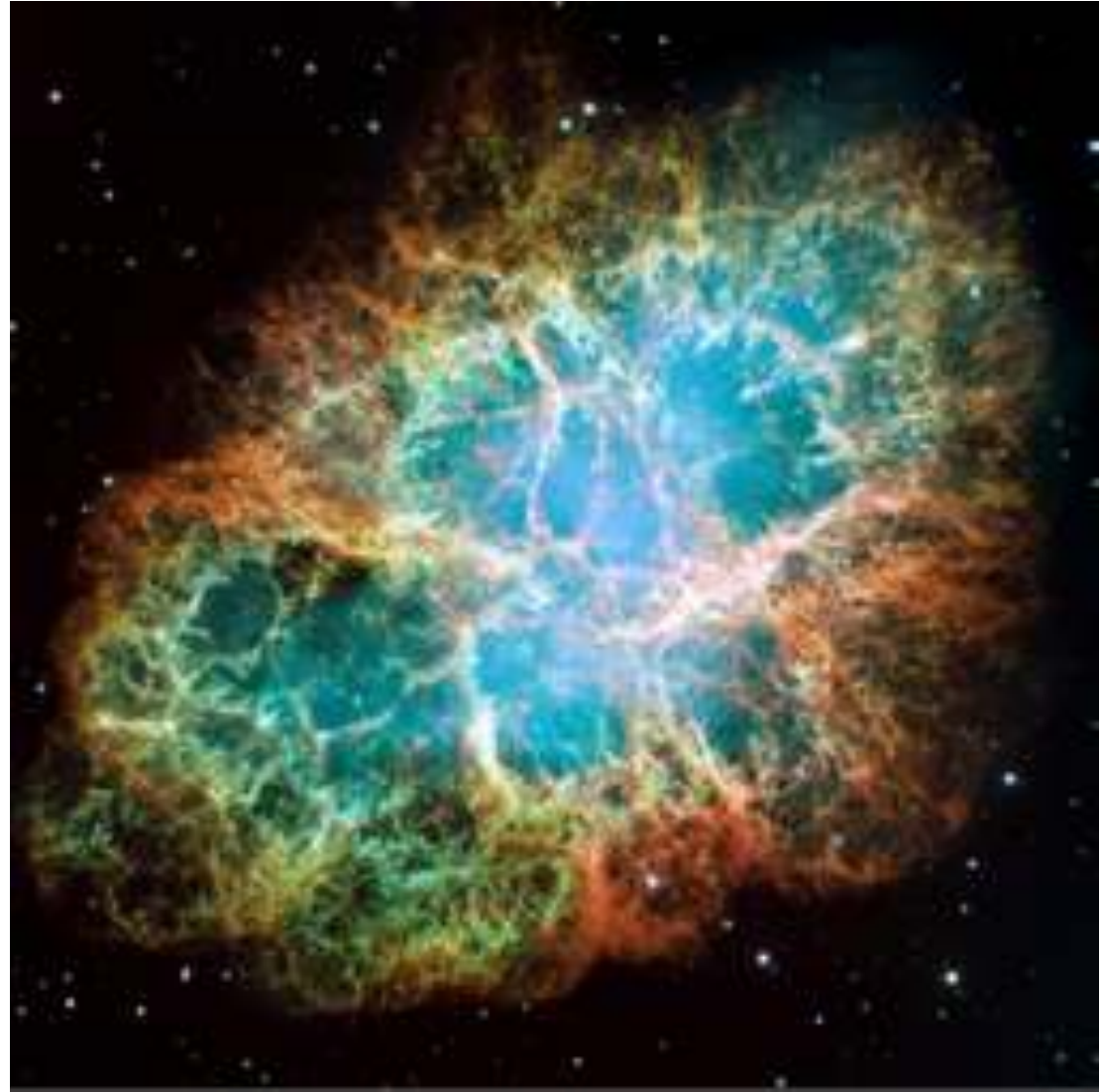
Kusemafini anjengalawa lapho kudaleka khona iziNkanyezi ezintsha.

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.



UmQongo oqanjwe nge-Crab (iNkalankala).

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

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

Izinsalela zesiDangazelakazi ziyimQongo, okuyilokhu okusalela ngemuva kokweqhuma.



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)

IsiDangazela

Izinkanyezi ezinesisindo esilingana neseLanga zifa ngendlela ezolile.

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

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

Wagcina ezisola ngokungazibizi nge-« stellar nebulae ».



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 ».

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.



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

Amafuzulu

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

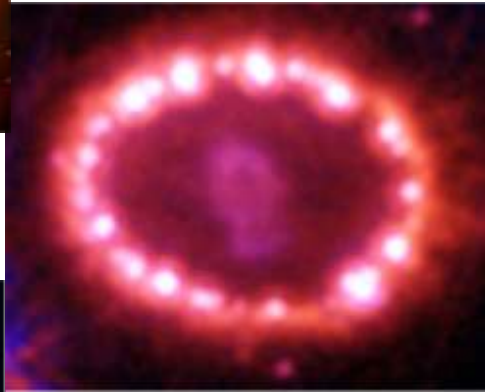
Lemizwayi, engabonakali ngamehlo eyakhiwe ngoHoyana leCalahle noma leSiphemba olumkhumanqa, igwinqa impekumpeku kwiWigo elibonakalayo kwizinkanyezi ezisondelene nayo.

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

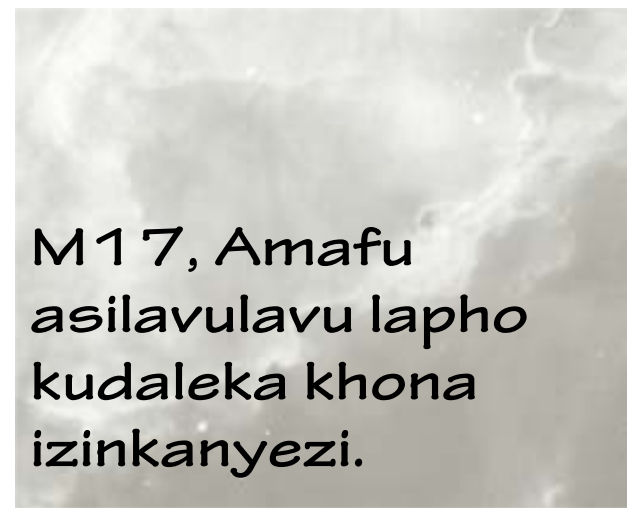


Uyazibona lezi
zinhlobo
zemiQongo?

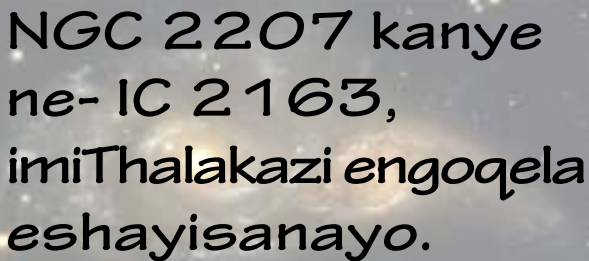
Imibuzo



Izimpendulo
zitholokala ku-
overleaf

A grayscale image of the M17 nebula, also known as the 'Aurora' or 'Omega' nebula. It shows a complex, filamentary structure of glowing gas and dust, with bright, wispy regions and darker, more defined structures.


M17, Amafu
asilavulavu lapho
kudaleka khona
izinkanyezi.

A grayscale image of the NGC 2207 nebula, also known as the 'Circlet' or 'IC 2163' nebula. It features a ring-like structure of bright, glowing gas and dust, with a central region that is slightly brighter and more defined.

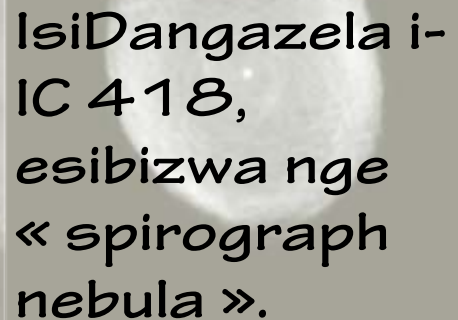
NGC 2207 kanye
ne- IC 2163,
imiThalakazi engoqela
eshayisanayo.

A grayscale image of the supernova remnant SN 1987A. It shows a ring-like structure of glowing gas and dust, with a central region that is slightly brighter and more defined.

IsiDangazeleka
zi i- SN
1987A.

A grayscale image of the Unicorn nebula, also known as the 'Trifid' nebula. It shows a complex, filamentary structure of glowing gas and dust, with bright, wispy regions and darker, more defined structures.

The Unicorn:
Ingxenye ye-Trifid
nebula esithwe
uthunqathunqa.

A grayscale image of the IC 418 nebula, also known as the 'Spirograph' nebula. It shows a complex, filamentary structure of glowing gas and dust, with bright, wispy regions and darker, more defined structures.

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

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-
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