

aba Zmebo SeudgeT Cveni saqmes



es qveyana ara iqmna borotaT da mere ki es qveyana ara iqmna siZu lvi l isTvin da
mtrobisTvin



1 es ari wya l qveSa navi rome l iT mecnierebi miemgzavrebian antarktidisken, es ari Tavisu fal i
mezRvaur is wya l qveSa navi (is daiqiraves mecnier ebma), me minda amewera am wya l qveSa nav is
teqnikuri monacemebi. anu is Tu rogor ia misi Zrava, javSani da sxva, me Semiz l ia amis axwera
miax l oebiTi warmodgeniT, am axwera s Tqven naxavT scenar is wakiTxvis Semdeg.

me minda SemogTavazoT ro Tqven amogmedoT warmosaxvis Semoqmedi unari (fantazia), gaecnoT
bunebis kanonebis da teqnikuri kanonebis axmweri wignebs da Cems mier axweri l i monacemTa mixedvin
warmoadginot Tavis i winadadeba am wya l qveSa nav isTvin da sxva teqniki sTvin

bne l i zRva, axa l i samyar oTa Zieba

1912 we l s cnobi l i mkv l evari (misi saxe l s da erovnu l obas Cven amovirCevT mogvianebiT Cveni
survi l is mixedviT) miemgzavreba Tavis i wya l qveSa nav iT eqspediciaSi antarktidis kontinentis
Sesaswavi laT, man gamoTqva Tavis droisTvis mamaci da moulodne l i varaudi ro SesaZ l oa
antarktidis yinu lebSi da mTebSi dafaruli a dakarguli idumali civilizaciebi da
samyaroebi

mkv l evaris eqspediciam jer miaxwia samxreTi amerikas da ramdenive TviT gaCerd a erT sanapiro
qal aqSi (am qveyanas da qal aqs Cven amovirCevT mogvianebiT Cveni survi l is mixedviT), iq
mecnierma Caatara rome l i Rac gamokv l eva. mere wya l qveSa navi gaemgzavra antarktidis
kontinentisken, mas Semdeg rac maT miaxwies antarktidis napirs maTgan iyo miRebuli ramdenive
radiograma, magram mere Sewyda kavSiri eqspediciasTan da is gaqra. ramdenive saZiebo da
samaSve l o eqspedicia amao cdi l obda aRmoecina mkv l evarTa kva l i, magram aman ar moitana ara
nairi Sedegi, mere ki daiwyo pirveli msolfio omi da drois svlaSi Tan da Tan am
eqspediciis ambavi iyo miviwyebu l i

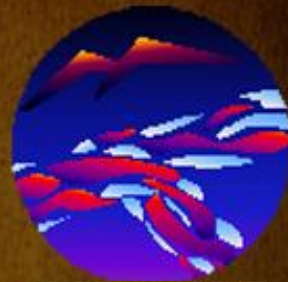
2 es ari Tavisu fal i mezRvaur is axa l i wya l qveSa navi, SesaZ l oa ro misi Zveli wya l qveSa navi
daiRupeba an moxdeba sxva ram (Cven SegviZ l ia movi firoT es ambavi), am wya l qveSa nav is aSenebaSi
Tavisu fal i mezRvaur s daexmareba zRvis xal xi



2068 we l s axa l gazr da arqeo l ogma da antropo l ogma mecnierma (mis saxe l s da erovnu l obas
Cven movi fiqrebT mogvianebiT Cveni survi l is mixedviT) SemTxveviT aRmoaCina dakarguli



mkv l evaris ucnobi Canaweri. mecnierTa jgufTan erTaT maT Seiswav l es es Canawerebi, maT aRmoaCines ro am CanawerebSi kide ari mocu l i mrava l i sxva mkv l evaris da mecnieris ucnobi naSromi rome l i moicavs Rrma sayuradsaRebo cnobebS da Teoriebs antarktidis kontinentis Taobaze. Canawerebs qonda Tan darTu l i eqspediciis gegma, is moicavs mrava l



3 zRvis xa l xis wya l qveSa navi, is u f r o o r g a n u l i a, i w o v s Z a l a s (_ e n e r g i a s) g a r e m o s g a n d a T a v a T g a m o i m u S a v e b s Z a l a s, z R v i s x a l x i m a r T a v s m a s a s e r o e r T v e b a T a v i s i n e r v i u l i w y o b i T w y a l q v e S a n a v s, a s e i s c o c x l d e b a d a S e i Z e n s g o n e b a s

saintereso cnobas, mas Semdeg rac aRmoCeni l i Zve l i naSromi iyo gamoqveyni l i mecnieru l i sazogados mier, isini gadawyveten mouyaron Tavi axa l i mkv l evari eqspedicias da Caayenon misi saTaveSi axa l gazrda mecnieri da misi jgufi, raTa maT gaiaron dakargu l i mecnieris kvaliT da Caataron saTanado antropo l o g i u r i d a k u l t u r o l o g i u r i k v l e v a. m o i Z i o n i s r i s i a R m o C e n a s c d i l o b d a p i r v e l i e q s p e d i c i a d a g a a r k v i o n T u r o m e l i b e d i e w i a m a T

mkv l evari eqspediciisTvis Tavis moyras Wirdeba ramdenive we l i w a d i, u e c r a T y v e l a a R m o C e n i l i m a s a l a i y o g a s a i g u m l o e b u l i, a m m a s a l i T a R m o C d a d a i n t e r e s e b u l i r a m d e n i v e q v e y a n a d a m a T i s a m x e d r o Z a l e b i. m e c n i e r e b s d a a v a l e s m o n a w i l e o b a f a r T o m a S t a b i a n i s a i d u m l o o p e r a c i a S i

moxda is ro antarktidis napiris im monakveTSi rome l i a x w e r i l i a d a k a r g u l i m k v l e v a r i s n a w e r S i, s d e b a u c n a u r i m o v l e n e b i. z R v a S i d a c a S i i y o S e m C n e u l i r a m d e n i v e u c n a u r i g a e l v e b a, n a T e b a d a b u r u s i r o m e l i a l b a T x e l o v n u r i w a r m o S o b i s a a, i y o S e m C n e u l i r a m d e n i v e b u n d o v a n i o b i e q t i s m o Z r a o b a. a m i s g a r d a a m m o v l e n e b i s k v l e v a m a C v e n a r o i s i n i m i e k u T n e b i a n r a m d e n i v e s a v s e b i T g a n s x v a v e b u l i T v i s e b a T a d a m o q m e d e b i s m e q a n i z m i s j g u f s. a n u a l b a T r a m d e n i v e d a m o u k i d e b e l i d a g a n s x v a v e b u l i j g u f i m o q m e d e b s i m a r e S i

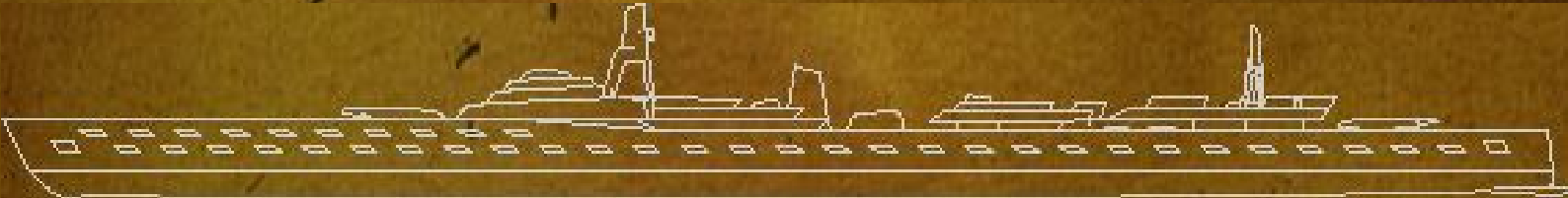
im adg i l S i z R v a S i m i m a v a l i r a m d e n i v e s a t v i r T o x o m a l d i d a n g a q r a m a T i t v i r T i s d i d i w i l i

4 a m e r i k u l i s a b r Z o l o w y a l q v e S a n a v i

ase ro veravin ver gaigo Tu rogor moxda es. am dros caSi da zRvaSi isev iqmna ucnauri naTeba da garkveu l i Tanmivdebarobis mqoni cimeimi. jer aravis jeroda mezRvaurebis, mara mas Semdeg



man dawri lebiT moaxsena mecnierebs cnoba am tomis Taobaze da maTi miTebi (Cven SegviZ lia dawweroT ca l ke wigni rome l Si axweri lia es miTebi). aseTi miTebis moTxrobis mixedviT Za l ian Zve l i dros zRvis napirze amovida zRvis xa l xi rvafexa, maT qonda saSine l i saxe magram isini ar iynen boroti xa l xi, maT SeeZ lo mrava l i saocari ram, maT



7 sazRvao naRm mzidi

qonda mrava l i sxva, didi da patara xe l sawyo, maTi navebs SeeZ lo curva wya l is zeda piris qveS, wya l is zeda pirze da frena. xa l xi rvafexa yveboda ro isini moviden Sori samxreTi miwidan rome l i Za l ian didia da dafaru l i a mTis xe l a yinu l i T

am yinu l is qveS mere ki miwis uzarmazari gamoqvabu l Si da mrava l i napra l Si mdebareobs uamravi (uzarmazari da Rrma) zRva, Waobi, tba, napiri da kunZu l i. es maTi kide erTi samSob lo a, miuxedavi imisa ro is mdebareobs yinu l is qveS iq ar civa. iq ari mrava l i sxva saocari adgi l i, maga l iTaT mrava l i sxva tye da mindori rome l Si binadroben naxe vr aT mcnarebi da naxe vr aT cxove l ebi (maga l iTaT naxe vr aT mcnare da naxe vr aT mo l uski), tye rome l Si xeT iqmnen sokoebi. mJaviT da damdnari l iToniT Semdgari tbebi. xa l xi rvafexa ambobs ro maTi pirve l i samSob lo uzarmazari gare zRvaa (at l antikis okeane an - da indoeTis okeane), isini iSvnen gare zRvis fskerze didi cecx lovani mdinaresTan, iq sadac kide Tfili tbebia da mbo lavi svete bi

am masa l is Seswavi am friad aRaSfoTa mecnierebi, SesaZ lo a ro antarktidis kontinentze arse bobs rome l i Rac gonieri civi l izacia. yve l aze mniSne l ia ro SesaZ lo a erTi da igive p l anetaze erT drou l aT ganviTar da ori gansxvavebu l i warmoSobis gonieri rasa, randens niSnavs es

8 mkv levar is wya l qveSa navi qaSa l oti



eqspediciis wevrebma faru l aT amcnes evropis samecniero sazogados aRmoCeni l i cnobebis Sesaxeb, mere ki isini gaemgzavren antarktidis kontinentisken. miTebSi naTqvamia ro am



xa l xi rva fexas miwaze Semava l i kari mdebareobs im adgi l is napirze arsebu l i marava l i
 wya l qveSa gamoqvabu l Si, am adgi l is povna SeiZ l eba ase ro iq wya l i araa ise m l aSe
 rogorc zRvis wya l i mere ki zRvis dineba ramdenadme icv l is mimarTu l erbas. amitom
 gayinu l i wya l is mTebi manam sanam gav l en Ria zRvaSi ramdenive xanis ganmav l obaSi
 9 axa l i Taobis sabrZo l o wya l qveSa navi

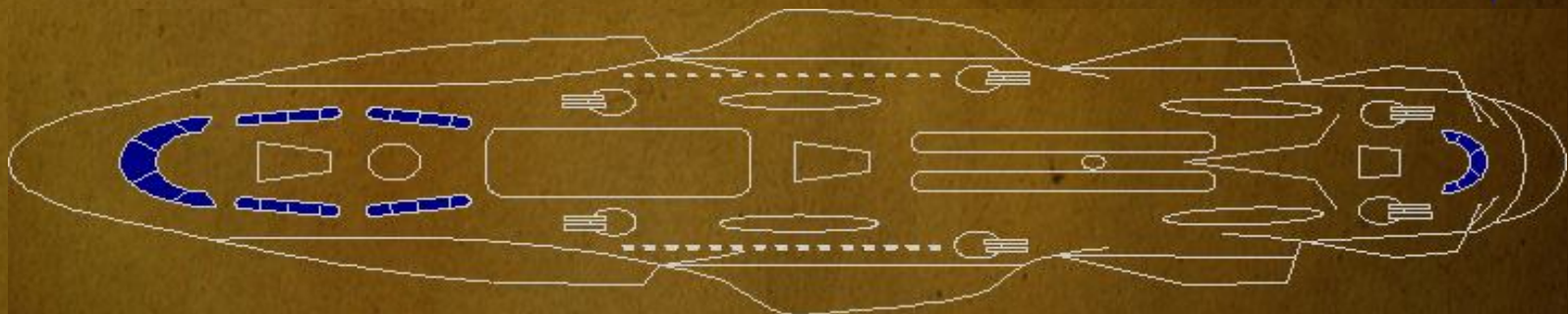


dacuraven wriu l aT (ex l a me movifigre es, Tu aseTi miniSneba araa sakmarisi an ara gamodgeba
 Cven SegviZ l ia movifigroT sxva rame)

1912 we l s mkv l evari varaudo bda ase ro es adgi l i mdebareobs antarktidis kontinentis
 at l antikis okeanes sanapiroze (Cven SegviZ l ia SevirCioT sxva adgi l i), aseTi varaudi
 dasturdeba imiTac ro iq Taviseburi zRvis dinebaa, iq aisbergebi ramdenive xanis ganmav l obaSi
 dacuraven wriu l aT manam sanam gav l en Ria zRvaSi. ara nak l ebi mniSne l ia ro es is adgi l ia
 rome l Si moxda axweri l i amoucnobi mov l enebi

axa l i eqspediciis wevrebma daiwyes am adgi l ze wya l qveSa mTebis da uRe l texi l ebi kv l eva,
 mecnier ebma miaqcies yuradReba imasac ro zrvis wiaRSi da zrvis fskerze mcnarebi da
 cxove l ebi zog adgi l Si ramdenadme gansxvavebu l ia.

mecnier ebi figrobden imaze Tu riTaa gamowveu l i aseTi garemo da pasuxze mianiSna wya l qveSa
 navis Semadgeni marTve l i mezRvaurTa jgufis Sturmanma. man miaqcia yuradReba imas ro am
 garemoSi wya l qveSa navis moZraobis, amotitivebis da fskerze daSvebis Tvisebani ramdenadme
 icv l eba, maSin Sturmanma gamoTqva aseTi varaudi ro Sesaz l oa am adgi l Si zrvis wya l i Seicavs
 nak l ebi mari l s. mecnier ebma ivarauda ro a l baT am adgi l Si wya l qveSa gamoqvabu l ebidan
 didi odenobiT gamoedineba mtknari wya l i, Tu indoe l Ta miTebi gvamcnoben simarT l es maSin
 es niSnavs imas ro antarktidis miwis yinu l is safaris qveS mocu l i mrava l i sxva uzarmazari



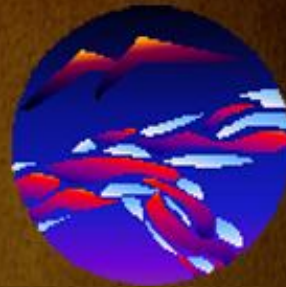


12 jaris kakis dana, is meqaniuria, amitom kide gamodgeba rogorc xerxi

saerTo monaxazi, Cven SegviZlia davamuSaoT jer is mere ki vifiqroT imaze Tu moTxrobis

ganviTarebis rome li qmedeba da wrilmani SegviZlia CavaqsovoT masSi

kide me minda ro moTxroba Sedgebodes ramdenive calke nawi liT, es SesaZloa iyos erTi



13 reaqtiuli sabrZolo Semtevi TviTmfrinavi

SemTxvevaSi dRiuri, meore SemTxvevaSi erTmaneTan SeerTebuli furclebi da sxva ram. ase

imitomaa ro am ambavs moyveba ramdenive pirovneba da erT nawi ls moyveba erTi adamiani

mere ki meore nawi ls moyveba meore adamiani, kide SesaZloa Cven davveroT ramdenive wigni

rome lSi sxva da sxva pirovneba Tavisi Tval sazrisiT moyveba erTi da igive ambavs

me var Tavisufali wyobis momxre, araa aucilebeli saWiro ro iyos moTxrobis marto erTi

mkacraT da mkveTraT gansazRvrulebi RerZi, da magaliTaT amitom SesaZloa ro moTxrobaSi

iqmnas ramdenive mTavari gmiri, rome li cval ebad iupiratesobiT gamodian (egre vTqva)

moTxrobis wina xedze. anu magaliTaT moTxrobaSi ari oTxi mTavari monawile, jer upiratesobiT

gamodis pirveli monawile, mere mesame, mere meoTxe, mere isev pirveli monawile, mere meore. kide

mTavari monawile xdeba is pirovneba rome lis daweril mogonebas Cven vkiTxulobT, ase

moTxrobis wina xedze SesaZloa gamovides nebismieri monawile, magaliTaT rigiti meZRvauri

rome li TxrobaSi ar warmocindeba raime gansakutrebiliT, mere ki Cven vkiTxulobT misi

datovebul mogonebas da Canaxats

rome lia wyal qveSavis da sxva teqniki awyobis wesi da Tviseba (principebi), me var audob ase
ro mravali sxva nano teqnologiis ganviTarebis meSveobiT Cven SevZlebt vmarToT nivTiereba misi
Semadgeni molekulis da atomis doneze. magaliTaT wyal qveSavis arseboobs illuminatori,
rome li iqmneba ase ro is araa amowrili wyal qveSavis tanSi, amitsvis iqmneba ori SesaZlebloba.
an wyal qveSavis tanis nebis mieri adgilis Semadgeni molekula da atomi Cveni salwiroebis

14 reaqtiulia aero kosmiuri yumbaris mzi davi TviTmfrinavi

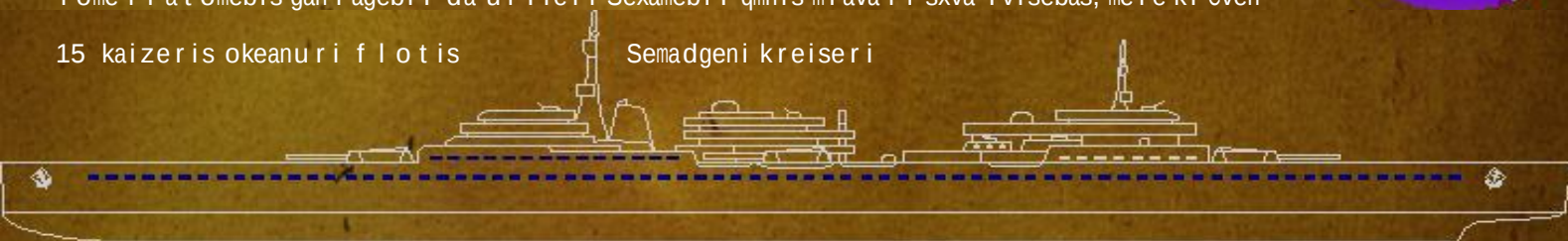
mixedvin icvlian wyobas, Tavisi energiis muxts da sxva Tvisebas, amis SedegaT isini ara kargaven

Tavisi Tvisebas mere ki amis meSveobiT iqmnebian gamWvirvili.





15 kaizeris okeanuri flotis Semadgeni kreiseri



ca l kea is mowyobi l oba rac saWi r oa Cveni arsebobisTvin wya l gveSa navze

mkv levaris wya l qveSa navs me davar qvi qaSa l o t i, am wya l qveSa navis Sesaqmne l aT mkv levarma gamoiyena gamZ le da msubuqi karbidu l i javSani, misi mow yobi l obani ikavebne mci ri adgi l s da ase wya l qveSa navSi iqmneba bevri Tavisu fali sivce, mkv levarma gamoiyena l o k a t o r i, radari da sonari.

wya l qveSa navis ZravaT gamoyenebu l ia toriumis birTu li reaqtori, misi muSaobisTvis
gamoiyeneba toriumis gamosxiveba, dei teriumi da ze gamtareb l obis Tvis eba toriumi moTavsebu l
ramdenive magni turi da karbidu li fi laSi romeli gan l agebu l ia wri u laT. wya l i dan gamoiyo fa
mZime wya l i, mZime wya l i dan gamoiyo fa dei teriumi romel s aciveben wya l badis Txevadi
mdgomareobamde, Txevadi dei teriumi T avseben toriumis birTu li reaqtors, toriumis dayofi T
qmni l i nawi l akebi axdenen gav l enas magni turi da karbidu li fi le bze mere ki Txevadi
dei teriumze.

ასე იყმნება ზღირი ენერგიის ველი რომელი ამოცმედებს მრავალ სხვა მეგანიური მოწყობილობას

16 kaizeris okeanuri flotis Semadgeni

sabrZo l o naRm mz i d i

