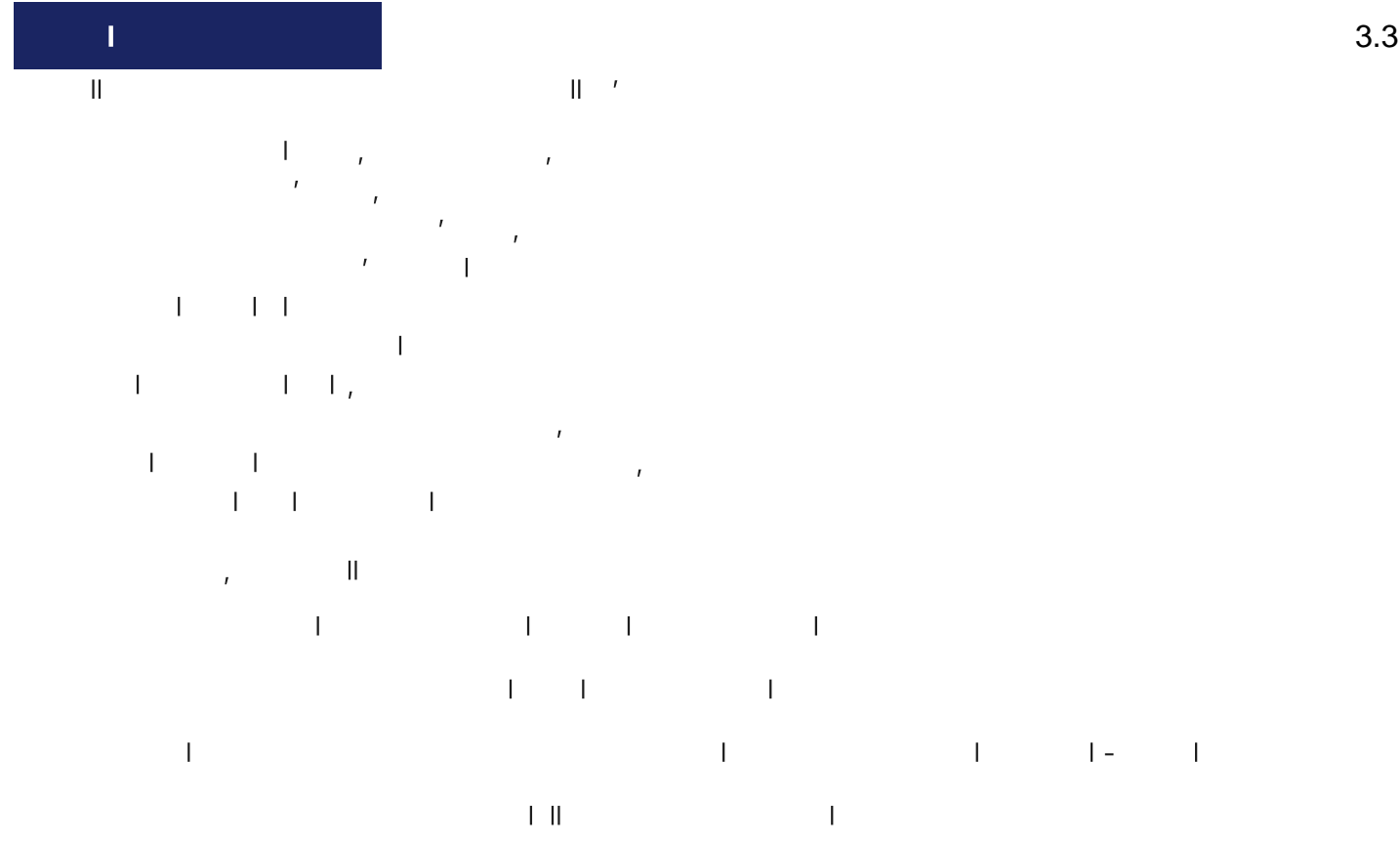


Fj Zhi ʼdc°9° [Y[Z%%

6hhZhnb Zci	I Zhi	9db V'c	H' ʼaa	9^ Xj ʼan
H6l	GZWʼc\ ʼVcYʼL gʼʼc\	ɤ[dgb Vi ʼdc ʼVcY ɤZVh	8Zci gʼaɤZVh ʼVcY 9Zi Vʼh	



I

6beeXVg4afj Xe-7

ETgbaT_X

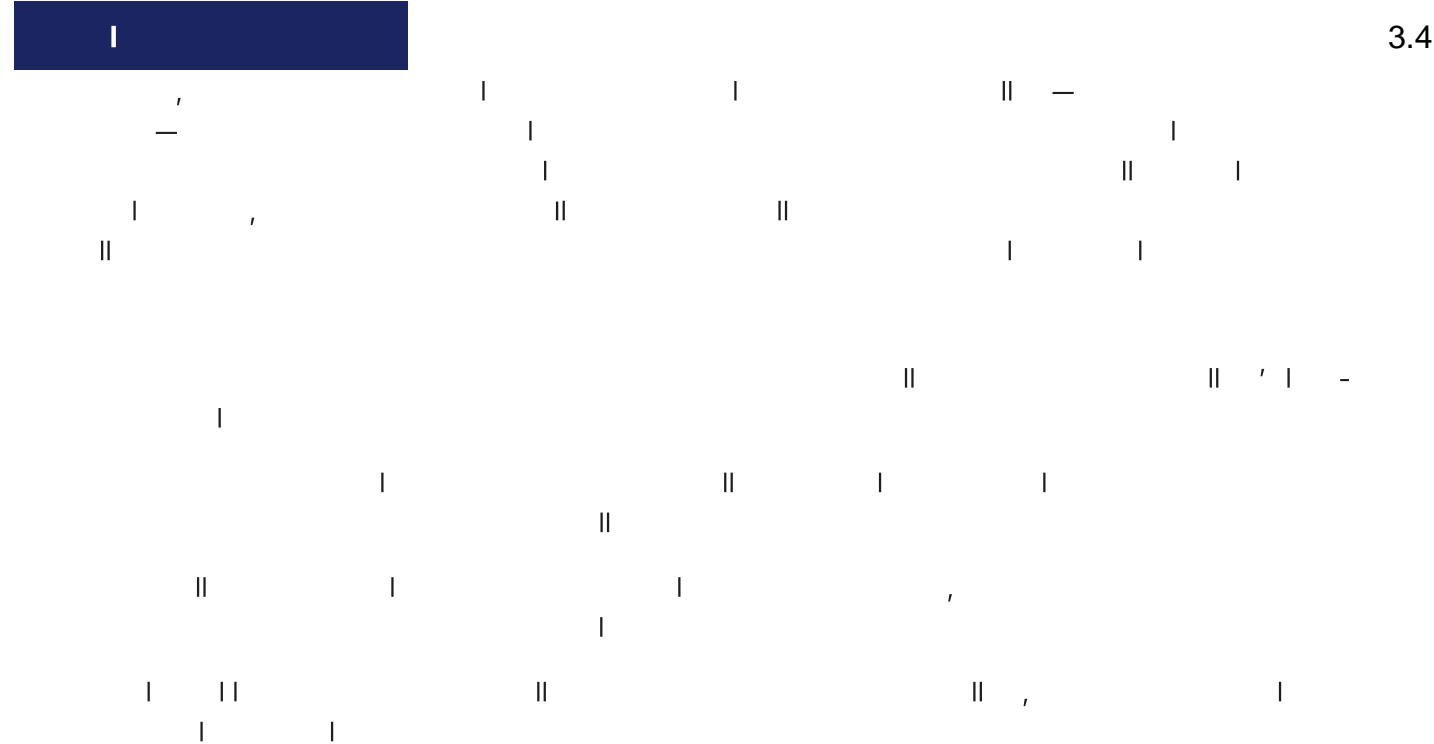
6[bWX'7 ʼf'g X'UXfgTafj Xe'G[X'gKkg` XgTc[beWT_ ʼ^Xaf'[h` Taf'gbTa\ T_f ʼa T'mbZfhZZXfgaZ'g Tg
[h` Taf [Ti XWEXT` f'g Tgg Xi VTaavgYh_E_UXVThfX'g Xi TeX'geTccXW

6[bWX'4 ʼf ʼaVbeeXVg'G[X'fcXT^Xe'fTI f'g Tgg X'_ba [Tf Ta 'hagT` XW[XTe'gZuhgg X'fcXT^XeWbXfa'gTVghT_ ʼ`
Xagba Tal g ʼaZ TUbhg[h` Taf'gT` ʼaZj \WTa\ T_f'beT_JV^'bYVb` cTff\ba!6[bWX'5 ʼf ʼaVbeeXVg'G[X
fcXT^XeWbXfa'gfhZZXfgg Tg[h` Taf _JV^` bgi Tgba!ETg XeZg X'fcXT^Xe'g ʼa^f'g Tg[h` Taf TeX'geTccXW½
TaWceXi XagXWWeb` TV[Xi ʼaZ'g XeWEXT` f!6[bWX'6 ʼf ʼaVbeeXVg'G[X'fcXT^XeWbXfa'g` Xagba Tal g ʼaZ
TUbhg[h` Taf UXVb` ʼaZ YehfgeTgWbe_JV^ʼaZ fX_YVbagb_!ETg XeZg X'fcXT^Xe'g ʼa^f'g Tg[h` Taf TeX
geTccXW¾TaWceXi XagXWWeb` TV[Xi ʼaZ'g XeWEXT` f!

DhXfgba '7\ÉVh_g -; TeW

Fj Zhi ʔc°9°. +- % XX%

6hhZhhb Zci	I Zhi	9db Vʔc	Hʔ ʔaa	9^ Xj ʔn
H6l	GZWʔc\ VcYʔL gʔʔc\	ʔc[dgb Vi ʔc\ VcY ʔZVh	8Zci gʔaʔZVh VcY 9Zi Vʔh	



I

6beeXVg4afj Xe-6

ETgbaT_X

6[b\X'6'f'g' X'UXfgTafj Xe'G[X'gkgfTI f'g' Tgg' X'VXeUX_h' [Tf'_baZ'UXXa'g' bhZ[ggb'eXZh_TgX' bge
YhaVgba\azZUhgaXj 'exfXTeV[f[bj f'g' Tg'g' TI T_fb[Ti X'bg' Xe'YhaVgbaf'V\hWaz'exZh_TgaZ'X' bgba TaW
fbVAT_UX[Ti 'beTaWfb' X'VbaaXVgba'g' bgi Tgba TaWeXj TeW'cebVXff'aZ!

6[b\X'4'f'aVbeeXVg'G[X'I G4'f'WfVeUXWTF'V'VXagXe'Ybe' bgi Tgba TaWeXj TeWcebVXff'aZ'Z'aWg' X
WfVbi Xe' bYg' X'cTg'j TI UXg' XXa'g' X'I G4 TaWg' X'VXeUX_h' fhccbeg'g' X'g' Xbel'g' Tgg' X'VXeUX_h' 'f
'ai b_j XW'a YhaVgbaf'bg' Xe'g' Ta' bgeVbbeW'aTgba!'6[b\X'5'f'aVbeeXVg'G[X'gkgfTI f'g' TgeXVXageXfXTeV[
[Tf'\WXag'EXWg'f'cTg'j TI ZUhg'gVbXfa'gWfVhff Tal 'ceXi 'bhf'V' WX' TWXcgXWV'T' f'U'Ubhg'g' X'cTg'j TI f'
YhaVgba!'G[X'V' Wf'ceXTWTV'^abj _XVZX' Xag'2 XagbaXWXTe' 'a'g' X'cTffTZX'f TUbhg'g' X'VXeUX_h' T_baXZ
abg'g' VbaaXVgba'g'g' X'I G4!'6[b\X'7'f'aVbeeXVg'G[X'gkgaXi XeWfVhffXf Tal 'gXV[ab_bZWT_\' 'gTgbaf'be
Tal 'aXj 'gXV[ab_bZVf!

DhXfgba'7\EVh_g -; TeW

Fj Zhi ^dc°>9°Y%[W&VZ

6hhZhnb Zci	I Zhi	9db V^c	H^ aa	9^ Xj an
H6l	GZW^c\ VcY^L gf^c\	xc[dgb M^dc VcY >ZVh	8Zci g/a>ZVh^VcY 9ZIV^h	

1

3.5

The image displays a single melodic line of a musical score. The notation is written on a five-line staff. The music consists of a series of notes and rests, separated by vertical bar lines that divide the staff into measures. The notes are represented by vertical stems with horizontal flags indicating their duration. The rhythmic values include quarter notes, eighth notes, sixteenth notes, and thirty-second notes. There are also various rests, including quarter, eighth, and sixteenth rests. The score is written in a single system, with the notes and rests arranged in a way that suggests a specific melodic contour and rhythm. The overall appearance is that of a handwritten musical manuscript.

1

6beeXVg4afj Xe'4

ETgNbaT_X

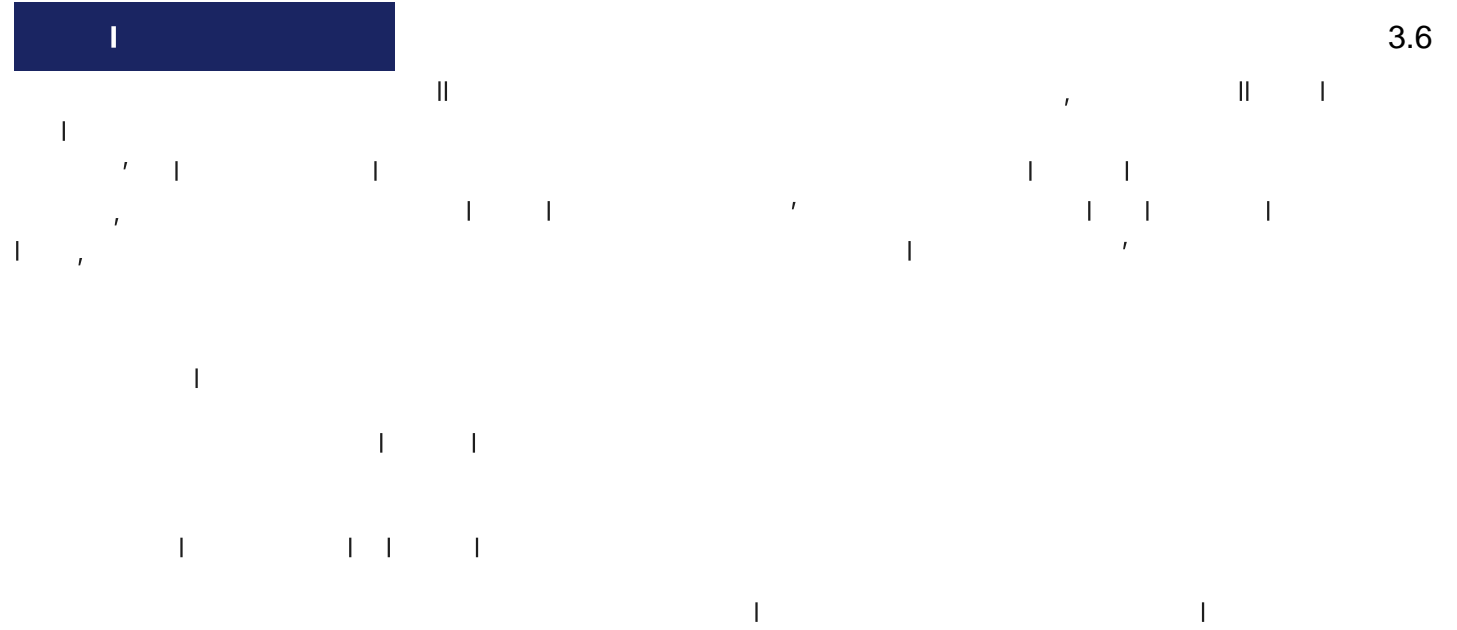
6[bWX'4 'f'g' XUXfgTafj Xd'G[X'gkkgfTl f'g' TgVbeT_f'cebWhVXUeZ[gVb_bef'gb'U'bV^ fha_Z[gTaWXaVbheTZX
T_ZTX'gb'eXVb_ba'vX'TYgX'e'f'a'Xai'eba` XagT_f'gXf'fbd'Zeb` 'g' V'Zj' XVTa' 'a'Xe'g' TgVbeT_f'g' TgcebWhVXUeZ[g
Vb_bef' [Ti X'cebUTU' _' UXXa' f'hUjXVqKWcb'Ta' Xai'eba` XagT_f'gXf'fbd'

6[bWX'5'f' 'aVbeeXVg'G[X'gKgfTI f'g[TgVbeT_f'cebWbVXUeZ[gVb_bef'gb'U_bV^'agXafX'fha_Z[g'] [W['cebgXVg'g' X'_Z[g'fXaf'gi XT_ZTX'g' Tg^XXc'g' X'VbeT_[XT_g' !'a'bg' Xe'j' beW'ZUeZ[gVb_bef' T^X'g' X'VbeT_f'[XT_g' 'Xff' i_h_aXeTU_X'gb' 'agXafX'fha_Z[g'6[bWX'6'f' 'aVbeeXVg'G[X'gKgfTI f'g[TgVbeT_f'cebWbVXUeZ[gVb_bef'gb' XaVbheTZXT_ZTX'gb'eXVb_ba'nxZabg'g' Tgg' Xl' [Ti X'eXVbi XeXWj' 'g' bhg'g' XTff'f'g'aVX'bYT_ZTXVb_ba'Xf!'6[bWX'7'f' 'aVbeeXVg'G[X'gKgaXi XeVb' cTeXf'g' X'_^X_[bbWbYWWXexag' 'Vb_bexWVbeT_f'f'hei'v' 'aZ'j' 'g' bhgT_ZTXVb_ba'Xf!

DhXfg\ba'7\ËVh_g -; TeW

Fj Zhi ʔc°9°&) &- . [VV

6hhZhhb Zci	I Zhi	9db V'c	H' ʔaa	9^ Xj ʔn
H6l	GZWʔc\ VcY'L gʔʔc\	ʔc[dgb Vi ʔc VcY ʔZVh	8Zci g/aʔZVh VcY 9Zi Vʔh	



I

6beeXVg4afj Xe'6

ETgbaT_X

6[b\WX'6`f'g' X'UXfgTafj Xe'G[X'gKkgWkfVeUXf' [bj `@VeTaVt'VeVh_TgWZ'XWgWZTaWTW\W\WbbgabgXf'gb'1XggXe
gb'g'XFcTaV['4`Xe\TafZTaWgV_T\`f'g'Tgg'X_XggXeTaWg'Thg'bej bh_W[Ti X'1eX`T'aXWafZa\EVTag\Y'g
j XeXa'gYbe@VeTaVt'f'XWbegf!

6[b\WX'4`f`aVbeeXVg'G[X'gKkgba_`fTI f'g' Tgi V'VTeVb'j ebgX'g'X_XggXeTaWg' Tg@VeTaVt'XWgW\g'gjaXi Xe
fhZZXfg'g' Tgg'X'beZ'aT_Thg' bef[`c'bYg'X_XggXe'f'hc`YbeW\UTgK'!6[b\WX'5`f`aVbeeXVg'G[V'VbageTWVg'g'X
gKkg'G[X'gKkgfTI f'g' Tg@VeTaVt'XWgW\TaWbbgabgWg'X_XggXeZUhg'g'W\KagEXf'1 V'VTeVb'Tf'g'X_XggXef'Thg'be
gT_f'b'aXi Xe\W\KagEXf'VXegT'aTeZh`Xag'Tf` beX'X_bdhXag'g'Ta bg'Xef'!6[b\WX'7`f`aVbeeXVg'G[V'V'bhg'W\X
g'XfVbcX'bYg'X'gKkg'G[X'cTeTZetC[WkfVeUXf'@VeTaVt'f'eb_X'a'g'X'VeXTgbaTaW\Wf'geUhgba'bYg'X_XggXeZUhg
g'W\Xfa'gZ'Xg'a'g'g'X'XWVg'f'bYg'X_XggXe'ba'bg'Xe'cXbc_X!

DhXfgba'7\EVh_g -; TeW

Fj Zhi ʼdc°9) Y(Z(X*'

6hhZhnb Zci	I Zhi	9db V'c	H' ʼaa	9^ Xj ʼan
H6l	GZWʼc\ VcYʼL gʼʼc\	æ[dgb ViʼdcVcY ʼZVh	8Zci gʼaʼZVhVcY 9ZiVʼh	

I			3.7	
I	--	I	II	II
II	I	,	II -	I
I	I			I
I	I	I	I	I
	I -			,
	I	I		,
	I	I		I
		I		II
I	I	I	--	I
I		I		
	I	II		
I	II	I	I	I
I		I		--
	I			II

I

6beeXVg4afj Xe'4

ETgbaT_X

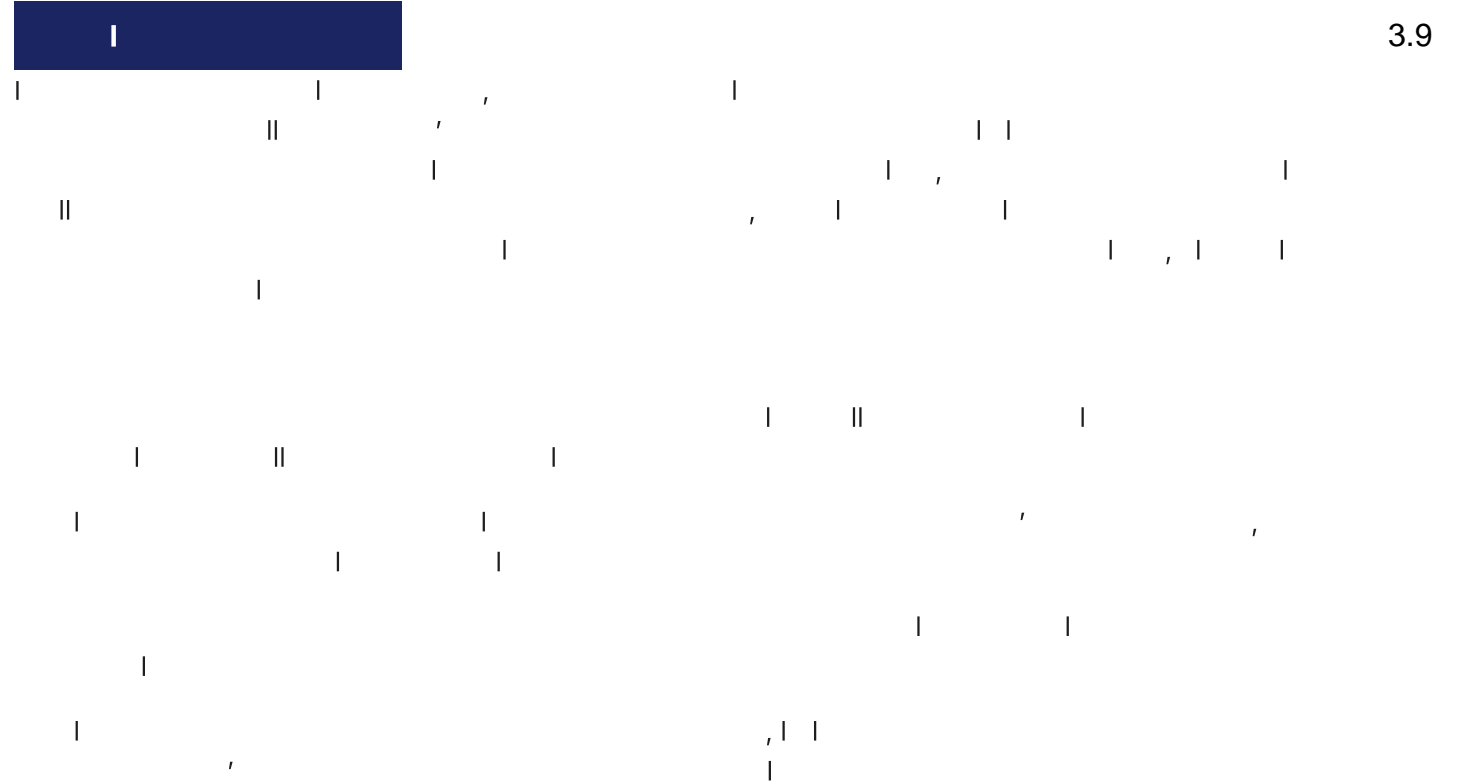
6[bWX'4 'f'g' X'UXfgTafj Xe'6bai XagbaT_fb_TeVX__YTUeVTgba 'aVeXTfXf '1g' X'VbfgbY` TahYTVghe'aZTgfVT_XZ½
UhgfceTI 'VbTgaZ` \Z[gZXgeWbYg' TgcebU_X' !

6[bWX'5 'f' 'aVbeeXVg'G['f' 'f' 'abgVb` c_XgX_ 'fhccbegXWUI 'g' X'g'kg'J [\X'gf'ghX'g' TgVbai XagbaT_8G?
YTUeVTgba 'f' XkcXaf\ X'TgfVT_XZg' XeXf'abg' 'aZ'a'g' X'g'kgg' Tg` Xagbaf'bg' XecXebi f^gXfb_TeVX__
TeV['gXVgheXf!'6[bWX'6 'f' 'aVbeeXVg'G['f' V[bWXWbXf'abg` TgV['g' X'g'kg'Ba_ 'baXVbai XagbaT_` Xg' bWbY8G?
YTUeVTgba 'f' WkfVeUXWZfbj XVTa'gVb` cTeX'g' Xfb_hgba'_bff'a'g' V` Xg' bWgb'g' TgbYbg' XeVbai XagbaT_
` Xg' bWf!f6[bWX'7 'f' 'aVbeeXVg'G['f' V[bWX'fa'gfhccbegXWUI 'g' X'g'kg'G[X'g'kg'aXi XefhZZXfg'g' Tgg' X
XXYXvgi XaXff'bYfb_TeVX_fV[TaZXf'UTfXWba'g' Xe` Xg' bWbYYTUeVTgba!

DhXfgba'7\ŒVh_g -; TeW

Fj Zhi ʼdc°9ʼY' Z%W*

6hhZhnb Zci	I Zhi	9db V'c	H' ʼaa	9^ Xj ʼan
H6l	GZWʼc\ VcYʼL gʼʼc\	xc[dgb Vi ʼdc VcY ʼZVh	8Zci gʼaʼZVh VcY 9Zi Vʼh	



I

6beeXVg4afj Xe-6

ETgbaT_X

6[bWX'6'f'g' X'UXfgTafj Xd'G[X'cTffTZX'UXZ'af'UI' WKFVeUaZ'g' X'fghW'ZTaWWbaV_hWKF'j' \g' 'gf'eXfh_gf-''' Tal hfXef'X' c_bl XWWbZa'gi X'' XV[TaV' f'gb' \gZTg'g' bfX'XX_aZf'NbYaXZTgi X'WfVbaEe' TgbaP'

6[bWX'4'f'aVbeeXVg'G[f'f'g' X'bccbf'g'byj [Tgg' X'g'kgV_J'\ f!ETg' Xe'g' X'eXfXTeV[Xef'YbhaWg' Tg'' Tal hfXef''eXi XefXW'g' Xe'a'gT_fXafX'bYWfTccb'ag' Xag''6[bWX'5'f'aVbeeXVg'G[f'V[bWX'WbXfa'geXl XVgg' X g'kg'J [Tgg' X'XkcXVgTgbaf'byf' Teg[b' X'g'XV[hfXef TeX'f'abgWfVhffXW'6[bWX'7'f'aVbeeXVg'G[f'V[bWX' WbXfa'geXl XVgg' X'g'kg'; bj 'byXa'g' XfX'gbcVf [Ti X'UXXa'fghWXXWf'abg' XagbaXW

DhXfgba'7\EVh_g -; TeW

Fj Zhi^{dc}9°, X V+*WW

6hhZhnb Zci	I Zhi	9db V'c	H' 'aa	9^ Xj 'an
H6l	GZW'c\ VcY'L gf'c\	xc[dbg Vi 'dc VcY >ZVh	8Zcig/a>YZVhVcY 9ZiV'ah	

1

3.10

[illegible]

1

6beeXVg4afj Xe'5

ETgNbaT_X

6[bVX`5`f`g` X`UXfgTafj` Xe`G[X`gXkgfTI`f`g` Tgd` XZ`Tff` UXTW` ZXgd` X`YbVhf` bYg` X`_Z[gUXT` f`fb`g` Tgd` X`
cTegV`Xf`Wba`gbi`Xe` XTg`9eb` `g`f`Z` X`VTa`a`Xe`g` Tgd` X`UXTW`T`_bj` `g` X`cTegV`Xf`g`b`UX` Ta`ch`T`g`Wj` `g`bhg`
UX`aZ`W`eXVq[`XTg`WU[`g` X`_Z[gUXT` f`!

6[bWX'4 'f 'aVbeeXVg'G[X'gKgaXi XefTI f'g' TgTggTV['aZ'g' XZ_Tff UXTW'fTi Xf'g' X'a Tai j TI!6[bWX'6 'f 'aVbeeXVg'G[X'gKgaXi XefTI f'g' TgTggTV['aZ'g' XZ_Tff UXTW' T_bj f'x'fXTeV[Xef'g'h'fXj XT^Xe'_Z[gUXT' f!
6[bWX'7 'f 'aVbeeXVg'G[X'gKgVbXfa'g'fTI 'g' Tgg' X'cTegV_Xf VTa'g'eTafXe[XTgg'g' XZ_Tff UXTW'fTeTg XeZ'g'fTI f'g' X[XTg'Yeb' 'g' X'_Z[g'VbVhfXf'ba'g' XZ_Tff UXTW' 'a'f'gXTWbYg' X'cTegV_Xf!

DhXfgba 7\ËVh_g -; TeW

Fj Zhi ^dc>9^V([WZ, ,

6hhZhnb Zci	I Zhi	9db V'c	H' 'aa	9^ Xj 'an
H6l	GZW'c\ 'VcY'L gf'c\	xc[dgb M' d'c 'VcY 'ZVh	8Zci g/a>ZVh'VcY 9ZiV'ah	

1

3.11

[illegible][illegible]

1

6beeXVg4afj Xe'6

ETqNbAT_X

6[bWX'6'f'g' XUXfgTafj XeUXVThfX'g` bfgTWheTgK_ f'gTgxf'g' X` T'a` \WXT'bYg' X'gKkg'G[X'gKkgUXZ'af'UI
Xkc_T'a'aZ'g' Tgj _\WTa` T_f VTa UX'fghWXXWa'g' X'e'aTgheT_[TUvgTgbe'a T_TUbeTgbe' f'XggaZŽ'g' XTV[
fXggaZ b'YXe'aZ'ha'dhXTW TagTZXf'g'b'eXfXTev[Xef'!G[X'gKkg'g' Xa [VZ[_VZ[g' Ta'a'afgTaVX'a'j [\W[_J XfgKea
fVehUž]TI f'j XeX'fghWXXWa'Ubg' f'XggaZf'Uhgj'g' VbaI \VgaZ'eXfh_g'Ž'aVWTgaZ'g' TgbaX'be'Ubg' f'ghWXXf` TI
[Ti X'YT_\XWg' TWbhag'ybe'g' X'WfTW TagTZXf' b'Yg'g' eXfXTev[f'XggaZ!G[hfŽg' X` T'a` \WXT'bYg' X'gKkg'g'g' Tg
j [\X'j _\WTa` T_f VTa UX'XYXVgI X_ f'ghWXXWa'aTgheT_be_TU'fXggaZfŽg' XeXTeX'Wetj UTV^f'g'b'XTV[g' TgaXXW
g' UX'Vba'f'WKeXWg' XafheXTWheTgK'eXfh_g'!

6[b\WX'4 `f `aVbeeXVgUXVThfX'g' X'g'XkgWbXf `abgcbf`g`ba `baX'fghW `fXggaZ`faTgheT`be`T_UfITf`fhcXe`be'g'd`g`X
bg`Xe`e'tg`Xe'z'g' X'g'Xkgf'gT'g'f`g' TgXTV[`baX'[Tt TW`TagTZf`bi`Xe'g' X'bg`Xe'f' b\WX'5 `f `aVbeeXVg`G[X'g'Xkg
cebi`W\Xf`T`[I`cbg`XgVT`_XkT` c_X'bYg`b'fghW\Xf`a`W\X`Xeag`Xai`eba` Xag`j`g`Vba[`WgaZ`eXfh`g`Z`Uhg'g`f`
f`aZ`_X`XkT` c_X'VTaabgUX`XkgeTcb`Tg`W`g`T`ZXaXeT`_V`T` TUbhg'g`X`_`^`X`[bbW'g`TgeXfh`g`bYfghW\Xf`a`
W\X`Xeag`Xai`eba` Xag`j`_`Vba[`Wg`4`W\W`g`baT`_Z'g` X'g'XkgWbXf`abgTffXegTa[g`aZ`TUbhg[bj`eXfXTeV[Xef`VTa
be`VTaabgeXfb`j`X`Vba[`WgaZ`fghW`eXfh`g`f`6[b\WX'7 `f `aVbeeXVgUXVThfX'g' X'g'XkgWbXf`abgf'gT'g'g' Tg
W\X`VeXcTaV\Xf`UXg`XXa`aTgheT`z[TUgTgTaW`TUzUTfXWTa`\`T`_UX[Ti`be'fchW\Xf`TeX`W`X`c`Ub'g`bY'g`X`W\X`Zaf`

Fj Zhi[^]dc[°]9[°]+, +', , , ' [

6hhZhnb Zci	I Zhi	9db V'c	H' 'aa	9^ Xj an
H6l	GZY'c\ VcY'L gf'c\	xc[db Vi 'tc VcY >ZVh	8Zci g/a>ZVh VcY 9Zi V'ah	

9/+, +', ,', '[

6g ^ X'VāZVkJZhVg VYZkZade\`gZcZl WwZcZg,nīZX] cda\`nī] Vi b`b`Xhī] Z`egdXZhhd[`e] didhnci] Zh`h`c`ea/cih#] ZhZ
YZkXZhVg`h`Xdc`WWhZY`hda/gXZah`XdViZY`c`X] Zb`XVaXViVanihiī] Vi VXi`kViZ`gVXi`dchī] Vi`hea`l ViZgb`dZ`Xj`ā`h`cid
] nYgd\Zc`VcY`dm\Zc`\Vh#] ZīZX] cda\`nī] Z`ZcZgVi`c`adihd[`ciZgZhi!`h`cdi`nZi`Xdb`b`Zg`Van`k`Ww`Vh`V`a`g`Z`h`XVaZ
ZcZg,nīhdj`gZ`# d`b`ZZiī]`h`X] VāZc\Z!`h`XZci`hih`[gdb`b`Vcn`Zā`h`Vg`gZhVgX]`c`\ Vnhīd`hidgZ!`ig`chedg!`VcY`Y`higWyiZ
i] ZcZg,nī] ZYZkXZh`egdYj`XZī] Z`di] ZghXZci`hih`VgZī dg`c`\id`b`eglkZī] Z`Xdhi`VcY`Z`XZcXnd[i] ZYZkXZh`#t

L] X] X] d'XZ`WZhi`hiViZh'i] Z`b V`c`YZV`d[i] ZiZm4

8dci'cj ZY'g'hZVgK] VcY'YZkZæleb Zci'°c Vg^ X'VāZV[iZX] cdæ\ n°h°cZZYZY'WZ[dg'ī] Z'YZk'XZh'XVc'WZ'1 'YZan'j hZY'Vh'Vc
6#ZcZg,n'hdj gXZ#t

l] Z'gZXci'cXgVhZ'c'i] Z'Xdb b ZgKVaj hZ'd[Vg ^ X'VaazVkJhVhVc'ZcZg\ n'hdj gXZ'] Vh'ZcXdj g\ZY'b Vcn'hX'Zci'hih'id
7#g'hZVgK] l Vnh'id'b egdk'z] Z'iZX] cdad\n#

6g^X'VāZVZh'hea'1 ViZgb dāXj āh'cid'dnm\Zc'VcY'] nYgd\Zc'\Vh'j h'e'\XViVanh'h'b dg'Z X'Zcian'i] Vc'eā/cih'Yd'j h'e'
8#] Z'egdXZh'h'd[ē] di dhnci] Zh'h#

6g^X'VaāZVZh1 Zg'YZkZadeZY'id'b 'b 'X'i] Z'cVij g/aegpXZh'h'd[e] didhnci] Zh'h'c'e'a/cih'c'dgY'Zg'id'hidg'ZcZg'n[dgald
9#Zgp 'Xdb b Zg'Vaaj hZ#

9/+, +', , , ' [°chl Zg

8dggZXi °6chl Zg/6

GVl ^dcVaz

8] d\XZ^6^h\i] Z\WZhi Vchl Zg\WZVj hZ^†b dhi V\Xj g\iZan^hiViZh\i] Z^b V^c^Y\ZV^d[i] Z^iZm#6XXdgY^e\id\i] Z^iZm!Vg^XVa
 aZVkhZhVgZVgZcZl WZ^ZcZgn\iZX] cda\^n\i] Vi h^c^Y\ZkZaeb Zci VcY^ZcZg\i^e\^ciZg\hi#] Z^iZm\^dZh^dc^id^hiViZ\i] Vi
 Vg^XVaZaZV[iZX] cda\^n^h^cdi^nZi^Xdb b Zg\^Vank^WZ^VhV^a\gZ^hXVaZ^ZcZgn^hdj gZ^VcY^i] Vi hXZci^hih[gdb^hZkZg\^a
 Za^hVgZ^Yd^e\^WYY^†^dcVaZ^hZVg\^id^gZ^cZ\i] Z^iZX] cda\^n#] j h\i] Z^b V^c^Y\ZV^h\i] Vi^XdcicjZY^gZ^hZVg\^VcY^Y\ZkZaeb Z
 ^eVg^XVaZaZV[iZX] cda\^n^h^cZZYZYWZ[dgZ^i] Z^Y\Zk^XZh^XVc^WZ^†^YZan\^hZY^VhVc^ZcZgn^hdj gZ^#

8] d'XZ'7'h'cXdgZXi#L] ǂ[i] ZīZmYdZh'hiViZ[i] Vi h'XZci'hih'[gɫb 'b Vcn' ZāhVgZ'gZhZVgK] c' Vg^ X'VāāVkJh'i] Znǂ'Yd'hd'id'VYVgZhh'i] Z'[VXi'i] Vi'i] Z'āVkJZhVgZ'cdi'nZi'Xdb b ZgK'Van'k'VWǂ!ǂi] Zgi] Vc'c'gZhedchZ'id'Vc'c'XgZVhZ'c'Xdb b ZgK'Vh'jZ#8] d'XZ'8'h'cXdgZXi#6ǂ] dj \] i] ZīZmYdZh'Znēǂ/c'i] Vi Vg^ X'VāāVkJZh'] Zǂ'heaf'1 ViZgb dǂXj āZh'cid'dnm\Zc'VcY] nYgd\Zc'Vh'j h'c'\XViVan'hih!↑YdZhci'VgJ Z[i] Vi'i] h'egdXZh'h'b dgZ' X'Zci[i] Vc'e] didhnci] Zh'h#] h'h'b ZgZ'an'VYZiVd[i] ZīZm'VcY'cdi[i] Z'b V'c'YZV!] X] h'VWǂj i] Z'VYV↑dcVāgZhZVgK] cZZYZY'id'b egdKZ[i] Z'Xdhi'VcY'Z X'ZcXn'd[i] Zh'Vg^ X'VāāVkJZh'#8] d'XZ'9'h'cXdgZXi#6ǂ] dj \] i] ZīZm'cYXViZh'i] Vi Vg^ X'VāāVkJZh'b 'b 'X'e] didhnci] Zh'h'c'eǂ/cih'i] h'Vc'c'XYZciVāYZiVǂ'c'hj eedj'd[i] Z'b V'c'YZV'i] Vi VYV↑dcVāgZhZVgK] h'c'ZZYZY'id'b V'Z'Vg^ X'VāāVkJZh'Xdb b ZgK'Van'k'VWǂ#

$$F_j Z h_i^{\wedge} d c^{\circ} 9^{\wedge} X_j \dot{a} n \nabla = V g Y$$

Fj Zhi 'dc°9° Y[* +, &'

6hhZhbb Zci	I Zhi	9db V'c	H' 'aa	9^ Xj an
H6l	GZW'e\ VcY'L g†'e\	æ[dgb Vi 'dc VcY YVh	8Zci g/aYVh VcY 9Zi V'h	

9/° Y[* +, &'

3.13

: æXi gdc X'b j hX'e' dcZZg L ZcYn°8Vg d h' hXgY†ZY† 1] i] Z'b j hX'[dgi] gZ'[ZVij g° ab h/ **68aX I dg Dgc\Z** & , & ! **1] Z H' e** & . - % ! VcY° **I glc** & . - ' †# = dl ZkZg] Zgb j hXVahXdgZ'[dg **68aX I dg Dgc\Z** h'b dhian'b VYZ'j e'd[] ZgVgVc\Zb Zcih d[Aj Yl ^ kVc°7ZZi] dkZch† dg #6and! Vab dhi Vaa] Z'b j hX†i] Vi'h] Z VcY°GVX] Za: a cY°Xdb edhZY'[dg **1] ZH' e** 1 Vh j cj hZY VhY gZ Xidg Hi VcZn°g VgX #† Y Y° cdi VeeZVg'c†i] Z° ab #D[i] Z†i] gZ° ab h! **I glc** h†i] Z° dcZ°c†i]] X] Vj YZcXZh°XVc] ZVgi] Z'b dhi d[°8Vg d h' dg\ cVaxdb edh††dch#

L] X] X] dXZ VZhi hi ViZh†i] Z'b V'c°YZV°d[i] Z†iZni4

6#D[i] Z†i] gZ° ab h'[dgi]] X] °8Vg d h' hXgY†ZY! **I glc** [ZVij gZh†i] Z'b dhi dg\ cVab j hX'[gdb] Zg#

7#1] Z Y gZ Xidgd[**1] ZH' e** hZY°b dhi d[i] Z'b j hX†i] Vi °8Vg d h' Xdb edhZY'[dg†#

8#7ZZi] dkZc°h† YZan°Xdc hY ZgY†d WZ V°b dgZ°b edg Vci°Xdb edhZgi] Vc°8Vg d h#

9#8Vg d h' V° cdi WZ° ccdk Vidg Vb dc\° ab Xdb edhZgh°c†i] Z°& , % h VcY°& . - % h#

9/° Y[* +, & ' °6chl Zg

8dgZXi °6chl Zg'6

GVi 'dcVā

8] d'XZ°6°h†i] Z VZhi Vchl Zg VZXVj hZ°† Y gZ Xian°Xdcig Y Xi h†i] Z†iZni hXa/b i] Vi° kZgn°afiaZ°d[1] Vi'h] Z VcY°GVX] Za: a cY°Xdb edhZY [dg **1] ZH' e** VcY° **I glc** #† Vah°cY°XViZh†i] Vi °8Vg d h' dg dc° **68aX I dg Dgc\Z** Xdch†iZY egb Vgan°d[Z æXi gdc X VgVc\Zb Zcih°d[°7ZZi] dkZc°Xdb edh††dch VcY†i] Vi kZgn°afiaZ°d[1] Vi'h] Z VcY°GVX] Za: a cY°Xdb edhZY'[dg **1] ZH' e** 1 Vh j hZY°c†i] Z° ab #7j i†i] Z h d j cYig/X° [dg **I glc** Xdch†ih°a/g Zand[°b j hX°Xdb edhZY Vh°8Vg d h! hd°† Xdc iV°ch°b dgZ°d[] Zgdg\ cVab j hX†i] Vc Yd†i] Z h d j cYig/X h'[dgi] Z°di] Zgi† d° ab h#1] j h†i] Z'b V'c°YZV°d[i] Z†iZni°h i] Vi d[i] Z†i] gZ° ab h'[dgi]] X] °8Vg d h' hXgY†ZY! **I glc** [ZVij gZh†i] Z'b dhi dg\ cVab j hX'[gdb] Zg#

8] d'XZ°7°h°cXdgZXi VZXVj hZ°† Y gZ Xian°Xdcig Y Xi h†i] Z†iZni hXa/b i] Vi° kZgn°afiaZ°d[1] Vi'h] Z VcY°GVX] Za: a cY°Xdb edhZY [dg **1] ZH' e** 1 Vh j hZY°c†i] Z° ab #8] d'XZ°8°h°cXdgZXi VZXVj hZ†i] Z†iZni YdZhc i VYYgZh†i] Z eZgZ°kZY f j Vafnd[Y†[ZgZci Xdb edhZgh!°chi ZVY!† Y hXj hhZh†i] dl °b j X] d[°8Vg d h' dg\ cVal dg 1 Vh j hZY°c VZX° d[i] Z†i] gZ° ab h†i] Z hXdgZ Y#8] d'XZ 9°h°cXdgZXi VZXVj hZ°† YdZhc i gZa/i Z†d Vcnd[i] Z'b Vdg†i] Zb Zh°d[i] Z†iZni/i] Z† dg 1 ZcYn°8Vg d h' Y Y°[dgi] gZ'[ZVij gZ ab h!° dl °b j X] d[i] Vi† dg 1 Vh°Xdb edhZY Vh°8Vg d h' VcY° dl °b j X] d[] Zgdg\ cVal dg 1 Vh j a°b ViZan j hZY°c†i] Z° ab #

Fj Zhi 'dc°9^ Xj an° = VgY