

# 7ci fgY'Cj Yfj ]Yk

### Ghuzz 7 cbhuWh8 Yhu]`g

'7cbj Ybcfg'

B Ua Y	9a U]`	5j U]`UV]`]m	@cWJhjcb	D\cbY
7 Ufc`]bY'K U_Y	Wk U_Y4 i bgk "YXi "Ui	-	Fcca <sup>*</sup> &(*9ž FcVYfh KYVgHYf	- ' \$)

#### GWkcc~7cbhJWh~abZcfa Uh]cb

Fcca " &ž`Yj Y`" FcVYfhK YVghYf`6i ]`X]b[

D\cbY.'f\$&E'-',)'(,)\*

9a U]` gUa 4 i bgk "YXi "Ui

K YVg]hY. \hdg.#gUa "Ufhg"i bgk "YXi "Ui

 $\label{eq:hamiltonian} $$HY'GWKcc``cZhY'5ftg'UbX'AYX]U'kci`X``]_Y'tc'FYgdYWM\cong \cong m5W_bck`YX[Y'h\Y'HfUX]tjcbU``7i gtcX]Ubg\cong h\Y'6YXY[U'`fPYbg]b[tcb'WJa di g\cong tz'; UX][U'`fP]tmUbX'5fth/ '8Yg][b'7Ua di gYg\cong tubX't\Y'B[i bbUk U` dYcd'Y'fbi gtfU']Ub'8YZYbW': cf\w'5\\WXYa m']b'7UbVYffU\cozh\Y'`UbXg'k\YfY'YUW\cozh\Y'YUW\cozh\Y''UbXg'k\YfY'YUW\cozh\Y'' \cozh\Y''\UbXg'k\YfY'YUW\cozh\Y'' \cozh\Y''\UbXg'k\YfY'YUW\cozh\Y'' \cozh\Y''' \cozh\Y'''' \cozh\Y''' \cozh\Y'''' \cozh\Y''' \cozh\Y'' \cozh\Y'' \cozh\Y''' \cozh\Y'' \cozh\Y'' \cozh\Y''' \cozh\Y'' \cozh\Y''' \cozh\Y'' \cozh\Y''' \cozh\Y'' \cozh\Y'' \cozh\Y'' \cozh\Y'' \cozh\Y'' \cozh\Y'' \co$ 

## 7ci fgY 8YW] g

7 fYX]hDc]bhg \*

Gi a a UfmcZh\Y 7ci fgY

Gi VYWh5fYU. FZWSfdWS` V BWdAd\_S`UWEfgV[We

 $H\g^WcifgY\WUb^U\gc^VY^ghX]YX^]b^h\Y^Zc^ck]b[~gdYW]U^]gUh]cb.$  ?  $WW[Sl5g^fgdWS^VFWUZ^a^aYk]$ 

7ci fgY @YUfb]b[ Ci hWca Yg

 $a \ UhYf]U'g'k \ ]h \ `UbX'Zcf'h Y]f'dYYfg'' Ghi \ XYbhg'UfY'YbWci fU[YX'hc'UWf]j Y`mdUfh]W]dUhY']b'h Y'h ]b_]b[!h fci [ \ cZ_Ymh YcfYh]WU``UbX'dYXU[c[]WU``ei Ygh]cbg'gdYW]Z]Whc'h ]g'Wci fgYž'UbX'hc'dfcUWh]j Y`mXYYdYb'h Y'hYfa g cZh Y'Wci fgY'h fci [ \ gY`Z'YX'fYgYUfWX''$ 

G9A #B5F: CFA5H. H\Y'gYa]bUf'k]``VY``ccgY`mglfi Wi fYX`Ug.``YWi fY`Ž'j]gi U``gWfYYb]b[gžZc``ck YX`Vmghi XYbhX]gW gg]cb`UbX`fYUX]b[g`fU`h\ci [\'h\]g`a UmW\Ub[Y`Zfca 'k YY\_hc k YY\_L"'H\Y'U]a 'cZh\]g`WUgg Zcfa Uh]g`hc']bhY[fUhY`U'bi a VYf`cZghi XYbh`YUfb]b[a cXU`]hJYg"'H\Y``YWi fY`]bZcfa Uh]cb'dfcj]XYg'U d`UhZcfa 'Zcf'ghi XYbhg'hc'h\Yb'Yb[U[Y']b'ghi XYbh'YX``YUfb]b[acXwYggYg'h\fci [\'h\Y'U``cWUh]cb'cZZcW gei Ygh]cbg'UbX`#cf'gYhX]gW gg]cb'hUg\_g"'Ghi XYbhg'UfY'UV'Y'hc'fYZYWijj Y`mdfcWYgg'ch\Yf'ghi XYbhg' Wcbhf]Vi hJcbg']b'fY`UhJcb'hc'h\Y]f'ck bz'UbX'hc'gY`ZXYhYfa]bY'U'Wf]nJWU``UbX`UbU`mi]WfYgYUfW\dfUWlJW''

## 5ggYgga Ybh

## 5ggYgga Ybh'HUg\_g'

5ggYgga Ybh'hJg_	K Y][\h	8i Y'8UHY	Gh XYbh@YUfb]b[ Ci hWca Ygʻ5ggYggYX
5bU`mh]WU``Yb[U[Ya Ybhg'%/&'	) \$1	&%#\$' #&\$% "Vm%%") - "DA "UbX %%#\$( #&\$% "Vm%%") - "DA	%Ž Ž( Ž) Ž+
; fci d'DfcYWhDfYgYbhUh]cb'	&) ı	&' #\$( #&\$% `\$&.\$\$`DA	&ž ž( ž) ž* ž,
±bX]j ]Xi U``DfcYWiFUh]cbU`Y`	&) ı	' \$#\$(#&\$% <sup>-</sup> %%) - <sup>-</sup> DA	%ž&ž ž( ž* ž+

### 5ggYgga Ybh8YHJ]`g

5ggYgga Ybh% 5bU`mh]WU`Yb[U[Ya Ybhg %/ &

GHJfh'XUhY.

#### 5XX]h]cbU`XYhU]`g.

D'YUgY gYY A ccX'Y"

 $\label{thm:limit} \begin{tabular}{ll} Hi & fb & fb & gYh &$ 

5ggYgga Ybh&; fci d Dfc YWhDfYgYbhUh]cb

GhUfh'XUhY.

**8YHJ**]`g. '\ "WUgg'dfYgYbhUh]cb'f&\ a ]bg\!''Gh'XYbhg'k cf\_']b'ga U```[ fci dg'fl !) \!cb'dfc\Y\\g'ncf]W\''fYgYUfW\'cf'U'dYf\Zcfa Ub\\''dfc\nchmdY'''Fi Vf]\WUbX'\Vf]YZ\\cappa a Ybh dfcj ]XYX'j ]U'A ccX'Y''DfYgYbhYX'k YY\_g'\%\UbX'\&

5XX]h]cbU`XYhU]`g.

D`YUqY`qYY`A ccX`Y

Hi fb]hjb gYhjb[. H\]g ]g bchU Hi fb]hjb Ugg][ ba Ybh

5ggYgga Ybh' . '₽X]j ]Xi U` Dfc YWhF Uh]cbU`Y

GhUfh'XUhY.

### 5 hyb XUb WY F Yei ]fYa Ybhg

5 ht/bXUbW/cZ@YWi fYg'UbX'Hi hcf]U'g']g'a UbXUhcfm]b'h\]g'Wci fgY"'I bYI W gYX'UVgYbW/Zfca 'a cfY'h\Ub &\$'dYfW/bhk]`'fYgi 'h]b'h\Y'Uk UfX'U'ZU]`'[ fUXY"'

#Jih Yig Ya ]b Ufzimci ik ]``UWfj Y`mYb[ U[Yik ]h WcfY Wci fgY WcbhYbhih UhYbUV`Yimci ihc XYa cbghfUhY U``Y][\h 7 ci fgY @YUfb]b[ 'Ci hWca Yg, 'fl\tau XYbh]zmUbX'X]gW gg \_YmXYj Y`cda Ybhg ]b WcbhYa dcfUfmdYfzcfa UbWl ]bgd]fYX VmXYj Y`cda Ybhg ]b 'HV\bc`c[m/f\tau X]gW gg \_YmXYj Y`cda Ybhg ]b 'WcbhYa dcfUfmdYfzcfa UbWl \]ghcfm'UbX'\jyb 'hYwbh'h YcfYhJWD'`XYVUhYg ]b 'hY'\i a Ub]hJYg/f( tay a cbghfUhY 'Ub 'Uxj UbWX', bck 'YX[YicZX]zzYfYbha cXYg 'cZdYfzcfa UbWl 'UbX'Ub UddfYWJUhJcb 'cZh\YJf'W 'h fu'`UbX'\]ghcfJWU'`gdYWJZWJmy'f) tay filb 'XYYfu\_Y 'WfJhJ\W'`XYVUhY cb WcbhYa dcfUfmWl 'h fu'`]ggi Yg/fl'tiDi fgi Y ]bXJj ]Xi U`'[i ]XYX'fYgYUfW\/fhtcfci [\`\_bck 'YX[YicZgY`YWhYX h\ycfYhJ\W]'`dYfgdYWJj Yg'UbX'fygYUfW\, a Yh\cXg"

## 7 ci fgY GWX YXi `Y

#### J ]Yk 'WUgg'ha YHJV'Y

#### Hla YHJV`Y

8 UhY	HmdY	7 cbhYbh
K YY_'%'% ': YVfi Ufm!'&( : YVfi Ufm	GYa ]bUf	DYfZcfa UbWYžBYk AYX]Už<]ghcfm
		: fca 'h\Y gUlY``]hY hc h\Y ]D\cbYžUg bYk 'a YX]U hYWbc`c[]Yg YYWca Y ]bWfYUg]b[`mYbhUb[`YX`]b ci f Yj YfmXUm`]j YgždYfZcfa UbWY dfUWfJWYg h\UhYI d`cfYž YI dUbX 'UbX Wf]h]ei Y h\Y Z bWf]cb cZh\cgY hYWbc`c[]Yg 'Zci f]g\" +b h\]g ]bHfcXi WfcfmgYa ]bUf k Y gYhh\Y YI d`cfUhcfmhcbY cZh\Y Wci fgY Vm a Udd]b[`\ck 'bYk 'a YX]U XfUa Uhi f[]Yg' fYZYWh\Y W 'hi fU`g\]Zhg 'VY]b[ 'WUhU`mgYX 'VmfUd]X hYW\bc`c[]WU`W\Ub[Y" J Ufm]b[`mhYfa YX a i 'h]a YX]U dYfZcfa UbWY zj ]fhi U`h\YUhfYzX][]hU`dYfZcfa UbWY cf WhVcf[ 'h\YUhfYz'bYk 'a YX]U XfUa Uhi f[]Yg'UfY 'Zci bX ]b dYfZcfa UbWY k cf_g h\UhXYa cbghfUhY 'Ub']bhY[fU` fY`]UbWY i dcb 'UbX fY`Uh]cbg\]d hc 'a YX]U hYW\bc`c[]Yg" I bghUYY 'UbX 'WcbghUbhmW\Ub[]b[ž k Y k cf_ hck UfXg bUa ]b[ 'gca Y XmbUa ]WUbX Wcbh]b[YbhZfUa Yk cf_g cZYbei ]fmh\Uhk ]``[i ]XY'i g h\fci [\ 'h\Y Wci fgY"
		7 UgY'ghi X]Yg. 'F cVYfhK ]`gcbž'7 \UfchtY'A ccfa Ubž @Ui f]Y'5bXYfgcbž'8i a V'HmdY'UbX'a cfY"' <u>@YY'WUgY</u> ghi XmVUb_C
		FYUX]b[g.:D:YUgY:gYY:AccX:Y"
K YY_`&.`&) ': YVfi Ufm!'' A UfWX	GYa ]bUf	6][ ·8UHJ
		H\]g`kYY_`kY``cc_'UhXUhU`Ug`ghfiWhifYž ]bZfUghfiWhifY`UbX`UYgh\Yh]WZcf`WcbhYadcfUfm

K YY_'' . '( 'A UfWX '! '%\$ A UfWX	GYa ]bUf	dyfzcfa UbW""K Y'Ug_'\ck 'WUb'dyfzcfa UbW' fygdcbX'rc'UbX'fydfygybhV][ 'XUHU3'7 Ub dyfzcfa UbW' Wcblf]Vi hY'rc'h\Y'dfc YWfcZXUHU † gh]W'3'C f']hXYg]bhYX'rc'VYWca Y'Ubch\Yf'W'hi fU' XUHUgYh3  7 UgY'ghi X]Yg. 'F Ja ]b]'Dfclrc_c'`fg'#"". gYf]Yg/ fUk W gfg 5 SfS'aYgWf&\$%) £/>i']Ub'F cgYZY'Xhg ]bghU'Uhjcb'? S' [Wefa/UbX'ch\Yfg"  F YUX]b[ g'UbX'UWNjj ]hjYg. 'D'YUgY'gYY'A ccX'Y"  BYk 'A YX]U'5 ha cgd\YfYg  H\]g'k YY_'k Y'Wcbg]XYf'\ck 'WcbhYa dcfUfm dYfzcfa UbW''UYgh\YhjWg'k cf_k ]h\'h\Y'a UhYf]U']mrcZ ]a U[ Y!VUgYX'XfUa Uhi f[ ]Yg'''K Y YI dYf]YbW' gfU[ Y dfUWjWyg'k \]W. '[ YbYfUhY' ]a a Yfg]j Y'UbX'UZYWnj Y gW'bc[ fUd\]Ygžk \]W. ']g'hc 'gUm "Uha cgd\YfYgž''h\fci [ \a'a U_]b[ '`][ \hzgci bX'cf'ha Y ffUh\Yf'h\Ub'bUffUhj YE'h\Y'cV-YWhcZh\Y'UYgh\Yh]W YI dYf]YbW'''K Y''cc_'Uhk cf_g'VmGcW]YHUg'F UZZUY''c GUbn]cž7 \i b_mA cj Y'UbX'<]fcU_]'I a YXU'''K y'U'gc Wcbg]XYf'h\Y']a a Yfg]j Y'WcbX]hcbg'cZj ]XYc'k cf_g' ]b \\Y''Uf[ Y'gWJY']bghU''Uhjcb'dfUWNW'g'cZ6]'''J ]c'U UbX'; fUbi 'Uf'Gmbh\Yg]g''K Y'Z]bU''mWcbg]XYf'k cf_g h\UhcdYfUhY'cb'h\Y'YX[ Y'cZa UhYf]U']mm'-'k cf_g'h\Uh ]bj c'j Y'WxYa ]WU''UWcfg'gi Wx'Ug'ga c_Y'cf'Zc[ ž k cf_g'h\UhXYWca dcgY'gci bX'hc'h\Y'dc]bhcZ VYWca ]b[ ''a ]WfcWcga ]Wbc]gY''cf'h\Uhx cj Y VYrk YYb'h\Y'Y\Y\Ya YfU']mrcZdYf7zfa UbWY'UbX dYfzcfa Uhj Y'UfWX]hYWn fY''  7 UgY'ghi X]Yg. '6]'''J ]c'U/H\Y'K YUh\Yf'Dfc'YWY ][ 'cc/9 'ai

	cddcgYX'rc'\i a Ub]lmŁ'UbX'\ck 'fcVchg'k ]h\'ZYY`]b[gkcf_']b'i bWJbbmk Umg"  7 UgY'ghi X]Yg.' <u>i h]Y'@UVci f</u> ž'7\f]g'GU'HYf/h\ <u>Y'H]`Yf</u> :_]fg'Vm@ci ]g'D\]``]ddY'8Ya Yfg/?f]g J YfXcbW_fg'

K_YY_''%)	F YUX]b[	Bc'WUgg/h\]g']g'U'FYUX]b['KYY_"	
K_YY_`%\$.`&&`5df]``!`&, 5df]`	GYa ]bUf		

## FYgci fWyg

## DfYgWf]VYX F Ygci fWYg

FYei ]fYX'UbX'Gi [ [ YghYX'FYUX]b[ g'UfY``]ghYX'cb'A ccX`Y"'FYUX]b[ g'a Um'W\Ub[ Yž'cf'bYk 'gi [ [ YghYX fYUX]b[ g'UXXYXž'gc'a U\_Y'gi fY'hc'fY[ i `Uf'm'W\YW\_'A ccX`Y'Zcf'h\Y'a cghi d!hc!XUhY']bZcfa Uh]cb"

## FYWca a YbXYX FYgci fWfg

: i fh\YffYgci fWYg WUb VY Zci bX cb A ccX`Y"

## 7ci fgY 9j U`i Uh]cb UbX 8Yj Y`cda Ybh

K Y`k Y`Wca Y`Wcbglfi Wfj Y`ZYYXVUW\_`-`YgdYWJU``mik f]lhYb`ZYYXVUW\_`flYa U]`gž'bchYg`YhW'E`cb`h\Y Wci fgY`WcbhYbhz'glfi Wfi fY`UbX`UggYgga Ybha Yh\cXg'-'bchcb`m'Uhh\Y`WcbWi g]cb`cZh\Y`Wci fgYž'Vi hU`gc

Gi Va ]gg]cb cZ5ggYgga YbhHUg\_g

Gi Va ]gg]cb cZ5ggYgga YbhHUg\_g

Hi fb]h]b Gi Va ]gg]cb

#mci YbWci bhYf'U'dfcV'Ya 'k \Yb'UthYa dr]b[ 'rc'gi Va ]hmci f'Ugg][ ba Ybht\fci [ \'Hi fb]r]bž'd'YUgY
hY'Yd\cbY'9I hYfbU''Gi ddcfhcb'-', ) '''' %cf'Ya U]''h\Ya 'cb'YI hYfbU'hY'hgi ddcfh4 i bgk "YXi "Ui '"'Gi ddcfh
\ci fg'UfY', .\$\$Ua '-'%\$.\$\$da 'cb'k YY\_XUmg'UbX'-.\$\$Ua '-').\$\$da 'cb'k YY\_YbXg'fl \*) 'XUmg'U'mYUft\"'=\maintention
UfY'i bUV'Y 'rc'gi Va ]hmci f'Ugg][ ba YbhXi Y'rc'U'ZJi 'hk ]h\'Hi fb]r]b'mci 'a Um'Udd'm\Zcf'Ub'YI hYbg]cb\ZVi hmci
a i ghfYhJ]b'mci f'r]\W\_Yhbi a VYf'\Zfca '9I hYfbU''Gi ddcfhfU'cb[ 'k ]h\'Ubmch\Yf'fY'Yj UbhXcW a Ybfg\L'rc
]bWi XY'Ug'Yj ]XYbW' 'rc'gi ddcfhmci f'YI hYbg]cb'Udd']\WJh]cb'''=\maintention
UfY'' bUYY''mfYWY']j Y'U'r]\W\_Yhbi a VYf\Zfvi h]Zmci 'hY'Yd\cbY'mci 'k ]'''bYYX'rc'gdYW]\ZfwJ''mUg\_'Zcf'cbY''
Hi fb]h]b'U'gc'dfcj ]XYg'i dXUhYg'cb'h\Y]f'gmghYa 'gfUh' g'cb'Hk]hYf"

; YbYfU``mž'UggYgga YbhiHug\_g'a i ghVY'gi Va ]hhYX'Y`YVWfcb]\W)``mij ]U'Y]h\Yf'Hi fb]h]b'cf'U'A ccX`Y Ugg][ ba Ybh'' =b']bgHJb\W'g'k \YfY'h\]g']g'bchdcgg]V`Yž']hk ]``'VY'gHJhYX'cb'mci f'\\ci fgY'g'A ccX`Y'g]hY'k ]h\ U`hYfbUh]j Y'gi Va ]gg]cb'XYhJ]`g''

cfi]bZcfa Uh]cbicbi\ckihcigi Va ]hUgg][ ba Ybhgicbi]bYij ]UiA ccXiY.i\hdg.#gh XYbh'i bgk "YXi "Ui #\ck! qi Va ]hUgq][ ba Ybha ccXiY

### 5 WUXYa ]W<cbYghmUbX D`U[ ]Uf]ga

D`U[]Uf]ga `]g`i g]b[ 'h\Y`k cfXg`cf`]XYUg`cZch\Yfg`UbX`dfYgYbh]b[ 'h\Ya `Ug`mci f`ck b"'\lefi\Wb'hU\_Y`a Ubm Zcfa gžZfca `XY`]VYfUhY`W\YUh]b[ 'hc`UVW]XYbhU`mWcdm]b[ 'Zfca `U`gci f\W' k ]h\ci hUW\_bck `YX[ Ya Ybh'

IBGK [fcidgdu[]Uf]ga ]bhch\YZc``ck]b[ WUhY[cf]Yg.

7 cdm]b[.'i g]b['h\Y'gUa Y'cf'j Yfmg]a]`Uf'k cfXg'hc'h\Y'cf][]bU`hYl h'cf']XYU'k]h\ci h'UW\_bck `YX[]b['h\Y gci fW'cf'i g]b['ei chUh]cb'a Uf\_g"'H\]g'U`gc'Udd`]Yg'hc']a U[Ygž'Ufh'UbX'XYg][b'dfcYWhgž'Ug'k Y``'Ug dfYgYbhUh]cbg'k \YfY'gca YcbY'dfYgYbhg'Ubch\Yf'g']XYUg'cf'k cfXg'k]h\ci h'WfYX]h'

⇒ Uddfcdf]UhY 'dUfUd\fUg]b[...7\Ub[]b[ 'U'ZYk 'k cfXg'UbX'd\fUgYg'k \]'Y 'a cghmfYhJ]b]b[ 'h\Y'cf][]bU` ghfi Wh fY 'UbX#cf'dfc[fYgg]cb'cZ]XYUg'cZh\Y'cf][]bU'žUbX']bZcfa Uh]cb'k ]h\ci hUW\_bck `YX[Ya Ybh'H\]g'U`gc Udd`]Yg']b'dfYgYbhUh]cbg'k \YfY'gca YcbY'dUfUd\fUgYg'Ubch\Yf'g']XYUg'cf'k cfXg'k ]h\ci hWfYX]hUbX'hc d]YW]b[ 'hc[Yh\Yf'ei chYg'UbX'dUfUd\fUgYg']bhc'U'bYk 'k \c`Yžk]h\ci hUddfcdf]UhY'fYZYfYbW]b[ "

7 c``i g]cb. 'k cf\_]b[ 'k ]th 'cth Yfg'Vi hidUgg]b[ 'cZZth Y 'k cf\_'Ug'U'dYfgcb'g']bX]j ]Xi U``k cf\_"'7 c``i g]cb'U`gc ]bWi XYg'dfcj ]X]b[ 'mci f'k cf\_'thc'Ubcth Yf'ghi XYbh'VYZcfY'th Y'Xi Y'XUHYZcf'Zcf'th Y'di fdcgY'cZth Ya

- i bXYfgfUbX mci f'f][\hg'UbX'fYgdcbg]V]`]hJYg'Ug'U'gh XYbhUhl BGK
- VY`Uk UfY`cZd`U[]Uf]ga ž`Wcdmf][\hz'l BGK `Gh XYbh7cXY`cZ7cbXi WhUbX`5VWWdhUV`Y`l gY`cZ I BGK `=\forall H`F Ygci f\W\g`Dc`]\m\m
- VY 'Uk UfY 'cZh\Y 'ghUbXUfXg 'cZVY\Uj ]ci f'Yl dYWYX 'cZYj YfmcbY ']b 'h\Y 'l BGK 'Wca a i b]hm
- `cWUHY 'gYfj ]WYg'UbX ']bZcfa UH]cb'UVci hI BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZh\YgY'UfYUg'k]``VY'ZJa]`]Uf'hc'mci ž'ch\Yfg'k]``VY'bYk"'; U]b]b['U'gc`]X'i bXYfgHJbX]b['cZU``h\YfY`UhYX'UgdYWng'cZ9@+69'k]``\Y`d'mci 'a U\_Y'h\Y'a cghicZmci f'ghi X]Yg'UhI BGK "'\\hd.##qi VYWfi |XYg"`]VfUfm'i bqk "YXi "Ui #\`]qY#JVci hY`]qY

### 5 WUXYa ]W = b Zcfa Uh cb.

: cf`YggYbhJU``gh XYbh`]bZcfa UhJcb`fY`UhJb[ 'hc.

- fYei Yghg Zcf Yl hYbg]cb/
- `UhY 'gi Va ]gg]cbg '[ i ]XY`]bYg/
- fYj ]Yk 'cZa Uf\_g/
- I BGK '<YU`h\ 'UbX'GUZYhm'dc`]W[Yg/
- YI Ua ]bUh]cb dfcWXi fYg/
- gdYWJU``Wcbg]XYfUhjcb`]b`h\Y`Yj YbhcZ]``bYgg`cf`a ]gUXj Ybhi fY/
- gh XYbhYei ]hmUbX X]gUV]`]hm/
- UbX'ch\Yf'YggYbhJU`'UWUXYa ]W]bZcfa UhJcbz'gYY

\hdg.#k k k "Uffig"i bgk "YXi "Ui #W ffYbhgh XYbhg#UWUXYa ]W]bZcfa Ufjcb#dfchcWc`g![i]XY`]bYg#

a U[Y'7fYX]h