



ARTS2095

8][]M`'HYW\bc`c[]Yg'UbX'h\Y'GY`Z

HYfa 'C bY''# '&\$&\$

7ci fgY^{*}Cj Yfj]Yk

`GHJZZ:7cbHJWh:8YHJ]`g`

'7cbj Ybcfg'

B Ua Y	9a U]`	5j U]`UV]`]m	@cWJhjcb	D\cbY
HUfU'A W@YbbUb	g	(da ž: f]XUmg [:] ‰Ja	FcVYfh KYVghYf 6i]`X]b[- ' ,) '+) , *"

GWXcc`7cbHJWhi±bZcfa Uh]cb

Fcca " ‰ž"Yj Y"" FcVYfhiK YVghYf"6i]`X]b[

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

9a U]`.'g<u>Ua 4 i bgk "YXi "Ui</u>

K YVg]hY.

7 ci fgY 8YHJ]`g 7 fYX]hDc]bhg **

5ggYgga Ybh

Ghi XYbhg D`YUgY BchY.

- 5```a Uf_g'UfY'dfcj]g]cbU``i bhj``h\Ym\Uj Y'VYYb'Zcfa U``m'WcbZ]fa YX'Vmh\Y': UW``hm5WUXYa]W E i U`]hm7 ca a]hhYY'Uhih\Y'WcbWi g]cb'cZYUWX'hYfa "'A Uf_g'a Um'VY'gi V'YWfibc'WXUb[Y'Zcf'j Uf]ci g fYUgcbg']bWi X]b['h\Y'Udd`]\WJhjcb'cZ`UhY'dYbU'hjYgža cXYfUhjcb'UbX'h\Y'Udd`]\WJhjcb'cZUWJXYa]W a]q\WcbXi WfidYbU'hjYg"
- 5ggYgga Ybhgʻa i ghʻVYʻgi WWYggZi ``mgi Va]hhYX`Vmh\Y`gdYW]Z]YX`Xi Y`XUhY`UbX`h]a Yžcf`]hik]``
 VY`XYYa YX``UhYžUbX`UʻdYbUʻhmUdd`]YX"'=h`]gʻh\Y`fYgdcbg]V]`]hmcZYUW\`]bX]j]Xi U``ghi XYbhibc
 Ybgi fY`h\Uh'Ubmk cf__`]gʻgi WWYggZi ``mgi Va]hhYX`Vmh\Y`XYUX`]bYžUbX`]b`]hg`WcffYWh
 Zcfa Uh#\Yfq]cb"
- D`YUgY`VY`Uk UfY`h\Uh5@@`UggYgga Ybh'hUg_g`UfY`fYei]fYX`Wci fgY`Wca dcbYbhg`f\i fX`Y Wca dcbYbhg\!"\ci`A I GH`UhhYa dh`YUW\`hUg_`]b`cfXYf`hc`dUgg`h\Y`Wci fgY"\: U]`i fY`hc`Wca d`YhY UbmcZ'h\YgY`hUg_g`k]```fYgi`h']b`U`ZU]`i fY`cZ'h\Y'Ybh]fY`Wci fgYžYj Yb`]Zmci f`fYgi `hg`]b`h\Y`ch\Yf kc`hUg_g`a][\hUXX`i d`hc`U'bi a Yf]WU``dUgg]b[`[fUXY"'=f]g`U`gc`Ub`YI dYWfUh]cb`cZh\Y`Wci fgY`h\Uh mci `UhhYbX`U'a]b]a i a `cZ+'ci hcZ-'h hcf]U`g"

H\]g`7 ci fgY`CjYfj]Yk `dfcj]XYg`mci `k]h\`h\Y`VUg]W]bZcfa Uh]cb`UVci hh\Y`Wci fgY`UbX`YI d`U]bg`]a dcffUbh I BGK `dc`]Wh'8YhU]`g`Zcf`YUW\`UggYgga YbhUfY`Uj U]`UVY`cb`A ccX`Y"

 $H\Y'dfYZYfYbVJb[gmghYa 'Zcf'h\]g`Wci fgY']g'<Ufj UfXž'k \]W. ']g'Ub']b!hYl hfYZYfYbVJb[gmghYa "H\YfY'UfY'`]b_g']b'h\Y'''<Y`dZ ``F Ygci fW'g''cb'A ccX`Y'UVci h\ck 'hc'i gY'<Ufj UfX"'Mci 'a Umi gY'Ubch\Yf gmghYa 'Zcf'Ub'UggYgga Ybh]Zmci 'k]g\ž'Vi hmci 'a i ghUdd`m]hWcbg]ghYbhmUbX'UWW fUhY`m'$

5ggYgga Ybh'HUg_g'

5ggYgga Ybh'tUg_	K Y][\h	8iY'8UHY	Gh XYbh@YUfb]b[Ci hWca Ygʻ5ggYggYX

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

9j Yfmk YY__']b 'h\]g'gi VYVVik]```]bWi XY'V`YbXYX``YUfb]b['a UhYf]U``h\ UhUg_g'Zcfmci 'hc']bhYfUVVik]h\ 'U ei Ygh]cbz']XYU'cf'8 =\/IfYgYUfW\ 'hUg_'dYfhU]b]b['hc'`YVVi fY'a UhYf]U`#fYUX]b[g"'F YgdcbgYg'hc'cb`]bY 'YUfb]b['a UhYf]U'g'Zfca 'k YY_g'%hc'('k]```Zcfa '5ggYgga YbhC bY"'9UVX'fYgdcbgY']g'Xi Y'cb`]bY'Vm: f]XUm Uh'%%) \$da 'cZ'h\Y'k YY_']h]g'gYhzgc']hk]```VY']a dcfhUbhhc'_YYd'cb'hcd'cZh\Y'A ccX'Y'WcbhYbhfY[i 'Ufm'':]j Y'a Uf_g'k]```VY'XYXi WhYX'Zfca 'mci f'UggYgga Ybha Uf_'Zcf'YUVX'Z ```XUmcZ`UhY'gi Va]gg]cb'f]"Y" Ubmh\]b['qi Va]hh/X'UZhYf'h\Y'YI dYWhX'k YY_`m: f|XUmi d`cUXŁ"

5 HHY b X U b WY `U hi h Y 'Z|fghi h c'] b hY f U whj Y `Y Wi f Yg 'c Zh Y 'hY fa 'k]```VY `\Y`d Zi ``]b `XY j Y`cd]b ['mci f']XY U g' Zcf k f]hHY b 'f Ygdcbg Yg 'f Ug'h Y 'U whj]h|Y g' k]```]bj c'j Y 'g Y`Z f Y ZY I]j Y 'Wcbg]XY f U h]cb 'c Z X][]hU `Y I d Y f]Y b WY g Wcb Xi WhY X]b `Y Wi f Y 'h]a Y L''

 $\label{eq:chik} $$ Mci f'g\cfh'k f] $$ f'yb'hYl hg'k]$``VY'a Uf_YX'VUgYX'cb'h\Y'Zc``ck]b[.$

- 9b[U[YaYbh`Yj]XYbWY`cZUWNjYi`gY`cZfYUX]b[g`UbX`fYgdcbg]jYbYgg`hc`cb`]bY`dfcadhg`Zcf |bXYdYbXYbh`YUfb]b[
- I bXYfgHJbX]b[. Wca dfY\Ybg]cb cZh\Ycfm
- K f]h]b[.

WYUHY 'hc[Yh\Yf']b!WUgg#cb`]bY'fWcbg]XYf'h\]g'U'Zcfa 'cZ]a dfcj]gUh]cbU`'d`Umcf'VUbhYf'h\Uh'\Ug'd`UbbYX Zci bXUh|cbqŁ"

H\Y`ei U`]micZh\Y`Ui X]c`]g`bchVY]b[`UggYggYXž'U`h\ci [\`h\Y`gci bX`k]``bYYX`hc`VY`gi Z]W]YbhZcf`h\Y`]ghYbYf`hc`Wca dfY\YbX`nci fi`bYYX`hc`gdYU_'WYUf`m'

9X]h]b['WUb'hU_Y'd`UWY'k]h\'mci f'W\c]WY'cZYX]h]b['gcZrk UfY'fUbX'gca Y'gi [[Ygh]cbg'k]``'VY'dcghYX'cb A ccX`Y'Zcf'mci 'hc'Yl d`cfY'hc[Yh\Yft\" \Dghfi Wh]cbg'Zcf'\ck 'hc'gi Va]hmci f'gci bX'Z]`Y'k]``'U`gc'VY'Uj U]`UV`Y cb'A ccX`Y"

D`YUgY`bchY`h\UhXi Y`hc`h\Y`di V`]W\c`]XUm]b`k YY_`-žAcbXUmhi hcf]U`g`k]``VY`U``cWUhYX`k YY_`%\$`Ug`U a U_Y!i d`k cf_g\cdd]b['gYgg]cb`hck UfXg`h\Y]f`ZbU``UggYgga Ybhif]"Y"YUWX`WUgg`k]```fYWY]j Y`U`hchU``cZ '`]b!WUgg`k cf_g\cdg`h\Uhk]``VY`UggYggYX`Zcf`]b]hJUhj Y`UbX`Wf]hJWU`#WfYUhj Y`d`Ubb]b[\!"

5ggYgga YbhiH\fYY`]g`XYg][bYX`lc`gi ddcfhmci `]b`]bWfYa YbhU``mXYj Y`cd]b[`mci f`Z]bU``UggYgga Ybhž'k]h\Zcfa Uhjj Y`ZYYXVUW_Zfca `mci f`h hcf`UbX`dYYfg"`Hc`ZJWj`]hUhY`h\]gž'mci `k]```VY`Ug_YX`lc`Wca d`YhY`j Yfmg\cfh k f]hhYb`UWhj]hJYg`h\Uhk cf_'nck UfXg`mci f`Z]bU``gi Va]gg]cbž'k]h\cbY`Xi Y`]b`YUW\`cZk YY_g`gYj Ybž'Y][\hUbX b]bY`fk YY_'hYb`Zcf`A cbXUmhi hYgk"`H\YgY`UWhj]hJYg`UfY`g]a d`mk cf_!]b!dfc[fYgg`cb`_YmUgdYWhg`cZmci f fYgYUfW\ZbchZ]b]g\YX`dfcXi Whg"`Mci fì`VY`Ug_YX`lc`Wcbg]XYf`k\Uha YX]i a ž`UbX`[YbfY`mci `UfY`]bhYfYghYX]b`Zcf`mci f``UghdfcYWhž`UbX`k Yfi`Yl d`cfY`\ck a YUb]b[`WJb`VY`Wcbj YmYX`h\fci [\bchcb`mX][]hU``WcbhYbh Vi hX]ZYfYbhX][]hU``Zcfa q"

±0 'k cf_g\cdd]b['hi hcf]U'g'mci 'k]``'gi Va]hg\cfhd]YWYg'cZk cf_j]U'A ccX`Y'fd`YUgY'gYY'ci f`gi V'YWfig]hY'Zcf Z fh\Yf`XYhU]`gŁ"'Nci 'k]``'bchfYWY]j Y'k f]hYb'ZYYXVUW_cb'mci f'bchYgž'Vi hk]``'X]gW gg'mci f'dfc YWfiUbX dfc[fYgg'YUW\'k YY_'k]h\'mci f'hi hcf'fk \c'k]``'VY'_YYd]b['h\Y]f'ck b'fY[i `Uf'bchYg'cb'mci f'dfc[fYgg'UbX Wbhf]Vi h]cb'hc'k cf_g\cdd]b['h]a Y'Zcf'h\Y]f'a Uf_]b['dfcWYggŁ"

K Y'i bXYfghUbX'UbX'UddfYWJUhY'h\Uhmci '\Uj Y'ch\Yf'UggYgga Ybhgž'dU]X'k cf_'UbX'U'gcWJU```]ZYž'gc'k Y'Xcb'h Yl dYWh\i [Y'Ua ci bhg'cZk cf_]b['cb'U'k YY_`mVUg]gž'Vi hk Y'Xc'k Ubhhc'gYY'fY[i `Uf'dfc[fYgg"'9ZCfhUbX YbYf[mcj Yf'ha Y'k]``VY'fYk UfXYX"

Mci 'k]``VY'[fUXYX'cb.

- 9b[U[Ya Ybh4]b]h]Uh]j Y. Yj]XYbWY cZUWlj Y`migYY_]b['fYgYUfWX 'gci fWYg'UbX'W `h]j Uh]b['i gY'cZ [YbfY
- F Ygdcbg]j YbYgg 'bc 'ZYYXVUW_. ']bhYfUWf]cb'k]h\']XYUg'Zfca 'dYYfg'UbX'hi bcfg']b'XYj Y`cd]b['h\Y dfc'YWf'
- DYYf'gi ddcfh 'Wcbglfi Wjj Y']b!WUgg'UbX'cb`]bY'Wcblf]Vi ljcbg'lc'ch\Yfgfi]XYUg

Gi Va]gg]cb bch/g. D`YUgY gYY'A ccX`Y`]bghfi Whjcbg Zcf`\ck hc`gi Va]hmci f`Vf]YZk cf_g\cdd]b[bch/g"

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

5ggYgga Ybh(. 7fYUhjj Y €xYdYbXYbhF YgYUfWX fDfc YWŁ

GHJfhXUhY. Dfc[fYgg hck UfXg h\]g HJg_VY[]bg Ug dUfhcZ5ggYgga YbhH\fYYž]b k YY_'+"

@Yb[h\. ('a]bi hYg'X][]hU``WcbhYbhd`i g'+)\$'k cfXg'CF'&)\$\$'k cfX'YggUm'

8 YHJ]`g. '♣X]j]Xi U``F YgYUfW.'Dfc YWf—'dYf'cdh]cbg'dfYgYbhYX'cb'7 ci fgY'A ccX`Y'g]hY: ci f'f(Ł'a]bi hYg X][]hU``WcbhYbh'd`i g'+) \$'k cfXg'k f]hHYb'WcbhYbh'CF'&) \$\$!k cfX'YggUm YYXVUW_j]U'@A GH\]g']g'h\Y'Z]bU` UggYgga Ybh'

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

Mci 'k]```XfUk ']XYUg`UbX`Zfca '5ggYgga YbhH\fYY`fK cf_g\cdd]b[Ł`]b`cfXYf`hc`XYj Y`cd`UbX`fYZ]bY`h\]g \(\pm\X)j]Xi U``F YgYUfW\`DfcYWh'\Mci 'a i ghW\ccgY`mci f`ck b`hcd]\WUbX`ZcW g`cZfYgYUfW\\žVUgYX`cb h\Ya Yg\h\Ycf]Yg`h\Uh\Uj Y`Ya Yf[YX`cj Yf`h\Y`hYfa `fU`h\ci [\`VY`\WJi h]ci g`bchhc`fYdYUhk cf_\WJbj UggYX`]b mci f`[fci d`dcX\WJghžh\]g`UggYgga Ybhg\ci `X`ghfYh\X`mci f`l\]b_]b[`UbX`_bck `YX[Y`]b`bYk `X]fY\M]cbgŁ"

Mci 'a Umk f]hY 'U'hfUX]h]cbU`'YggUmcf'gi Va]hUb'U'hYfbUh]j Y'Zcfa Uhgi W\'Ug'j]XYcž'Ub]a Uh]cbž'Ub']a U[YYggUmcf'gca Y'Zcfa 'cZ]bhYfUWnj Y'a YX]U"

UggYgga Ybh

• Ghri Wri fy'Ubx'Wc\YfybWr.'XYj Y`cda YbhcZUb'UfhJW'`UhY'Ubx'Wc\YfYbhdYfgdYWJj Y'cb'X][]hU`hYWbc`c[]Yg'Ubx'gY`ZfYdfYgYbhUhJcbž'k\Yh\Yf'Wcbj YmYx'Ug'U'hfUx]hJcbU`'YggUmUf[i a Ybhcf']b'Ub

5 hyb XUb WY F Yei] fYa Ybhg

Mci 'Ufy'YI dYWYX'hc'Uthy'bX'U'a]b]a i a 'cZ+'ci hcZ-'hi hcf]U'g']b'h\Y'hYfa "'\=Zmci 'Ufy'i bUV'Y'hc'Uthy'bX'Zcf YI hy'bi Uh]b['W]fW a ghUbWyg'cf']`bYggžd'YUgY'[Yh]b'hci W\k]h\mci f'hi hcf"'5 hhybXUbWy'Uhih\Y'Zci f'ZUWY!hc! ZUWY'fZ&Z'YWhi fYg']g'ghfcb['mUXj]gYX']b'cfXYf'hc'gi Z]W]Ybhm'UXXfYgg'h\Y'Wf]hYf]U'Zcf'mci f'UggYgga Ybh hUg_g'f]"Y"'UggYgga Ybhg'k]``XfUk 'i dcb'h\Y'YI dYf]YbWY'cZYb[U[]b['k]h\'h\W\bc`c[m]b'U'"`]j Y'Ui X]YbWY'' WcbhYl ht"'

D`YUgY'bchY``YWi fYg`k]```VY'fYWcfXYX"'-Zmci 'UfY'i bUV`Y'hc'UhhYbX'U```Zci f`gW\YXi `YX`Z&Z``YWi fYg`Xi Y hc'YggYbh]U``k cf_'Wca a]ha Ybhg'cf`Yl hYbi Uh]b['W]fW a ghUbWrgžh\Yb'd`YUgY'WcbhUWhh\Y'Wci fgY Wcbj Ybcf']b'UXj UbWr'k]h\']bZcfa Uh]cb'cb'h\Y'fYUgcb'VY\]bX'mci f'UVgYbW'''K]h\'gi ZZ]W]Ybhbch]W'f]"Y"'Uh `YUgh&('\ci fg'df]cf'hc'h\Y'fY'Yj UbhZ&Z`YWi fYlzmci 'k]``VY'dfcj]XYX'k]h\'UXj]W'cb'\ck 'hc'UddfcUW\ 5ggYgga YbhCbY'k]h\ci hdUff]W]dUh]cb']b'h\Y''']j Y'Ui X]YbW'''WcbhYl h'

D`YUgY`bchY`h\YgY`Zci`f`Z&Z`YWh`fYg`U``c\W\f`Zfca`-Ua!\%Ua`cb`h\Y`Zc``ck]b[`XUhYg.`&\#\$&ž`&, #\$&ž`%(#\$'`ž\UbX`&+#\$'`"`=Zmci`UfY`ibUV`Y`hc`UhhYbX`UbmcZh\YgY`XiY`hc`YggYbh]U``kcf_`\Wca`a]haYbhg`cf`YIhYbiUh]b[\\]fWifW\aghUb\Wgžd`YUgY`\wcbhU\Wh\Y`\wcbf]b`UXjUb\W'"

#ik]```VY`]a dcftUbhitc'_YYd'cb'tcd'cZth\Y'fY[i`Uf'i dXUhYg'cb'A ccX`Y'fUg'th\]g']g'U'V`YbXYX``YUfb]b[gi VYWt''Cb`]bY`WcbhYbhik]```VY`fY`YUgYX'k YY_`mžYj YfmK YXbYgXUmVYZcfY'th\Y'fY`UhYX'ti tcf]U'g" H\Y'gtU[[YfYX'fY`YUgY'cZcb`]bY`WcbhYbh]g'XYg][bYX'tc'dfc[fYgg]j Y`mgWUZc`X'th\Y'`YUfb]b['YI dYf]YbW'ftc qtfYUa`]bY'th\Y'Wca a i bU``XYj Y`cda YbhUbX'i bXYfqtUbX]b['cZ_Ymth\Ycf]Ygt"

7 ci fgY GWX YXi `Y

J]Yk 'WUgg'h]a YHUV'Y

Hla YHJV`Y

8 UHY	HmdY	7 cbMbh
K YY_'%'%+': YVfi Ufm!'&9		Hi hcf]U`. 'HfUW]b['h\Y'GY`Z D`YUgY'bchY'h\Uhmci 'UfY'Yl dYWhYX'hc'Wca Y'hc h\]g'Z]fghWUgg'\Uj]b['Yb[U[YX'k]h\ 'cb`]bY a UhYf]U`g'di V`]g\YX'cb'A ccX`Y']b'C!K YY_ fl YVfi Ufm%\$h\Ł"''7`Ugg'X]gW gg]cb'UbX'UWhj]h]Yg k]``'XfUk 'i dcb']bhYfUWhj Y'cb`]bY'WcbhYbh''K Y'k]`` YghUV`]g\'[fci dg'Zcf'UggYgga Ybhg']b'h\YgY'Z]fgh hi hYg'VUgYX'cb'mci f'cb`]bY'Yb[U[Ya Ybh]b'C!k YY_"
	@YWn fY	: UWY!hc!: UWY`fZ&ZŁ`@YWhi fY.`H\Y`8][]hU` GiV^YWh : f]XUmi&(h\ž-Ua`!`%%Ua

		H\]g`k]``VY`Ub`]bHYfUWfjY`Y`YWfifY`ig]b[`X][]fU` HYVMbc`c[mZcf`UiX]YbWY`dUffjVJdUhJcb": cf`mcif`ZJfgh UggYgggaYbhfcb`]bY`fYgdcbgYgtžmcik]``VY`Ug_YX hc`fYZYWficb`h\Y`YIdYf]YbWY`cZYb[U[]b[`k]h\ hYVMbc`c[m]b`U`f]jY`UiX]YbWYfMcbHYIH`H\Y`WcbHYbh UbX`XY`]jYfmcZh\Y``YWfifY`k]``U`gc`[chckUfXg hihcf]U`g`]b`kYY_'kc"'D`YUgY`fYaYaVYfhc`U`gc WXYW_'AccX`Y`Zcf`g\cfhcb`]bY`UWfjj]hJYg`UbX j]XYcg`Ug`dfYd`Zcf`mcif`hihYg`]b`kYY_'Hkcž'UbX hc`_YYd`cb`hcd`cZUggYggaYbhdfcWYggYg"
YY_'&.'&(': YVfi Ufm'!'&, YVfi Ufm	Hi lcf]U`	•
		Hi hcf]U`."H\Y"8][]hU`"Gi V^YWh
		Cif'gYWcbX'kYY_'cZhihYg'k]``'VY'VUgYX'cb'h\Y WcaV]bYX'fYgcifWYg'cZh\Y'kYY_'cbY'Z&Z'YWhifYž' S`V'cb`]bY'WcbhYbh'
	@YWi fY	· ·

/	111 1 2011	
K YY_'' .'&'A UfVX'!'* A UfVX	Hi hcf]U`	·
		Hi hcf]U`. '7]fWi]hg cZ'7i `hi fY UbX DYfZcfa]b['h\Y'GY`Z
		Hi hcf]U`gʻVUgYX`cbʻh\Y`WcaV]bYX`fYgci fWYgʻcZh\Y k YY_'hk c`Z&Z`YWhi fY`S`V`cb`]bY`WcbhYbh'
	6`YbXYX	•
		Cb`]bY`@YWhifY.`AUhYf]U`]hmž6cX]Ygž H\]b[g
		Bc'Z&Z`YVWi fYg'h\]g'k YY_ž'Vi himci 'UfY'YI dYWWYX'hc\Uj Y'UWMj Y`mYb[U[YX'k]h\'h\Y'cb`]bY'`YVWi fY VvcbhYbhž'k \]W\'k]``VY'a UXY'Uj U]`UV`Y'hc'mci 'cb K YXbYgXUm''Cb`]bY'`YWi fYg'UfY'a UXY'i d'cZg\cfh &\$ a]b'j]XYcg']b'h\fYY'dUfhgž'UbX'UfY'XYg][bYX'hc VY'ZYI]V`Y'Zcf'mci f'gW\YXi `Y"'
		•
		·

Hi lcf]U`	Hi hcf]U`. `A UhYf]U`]hmž'6cX]Ygž'H\]b[g Hi hcf]U`g`VUgYX`cb`h\Y`V`YbXYX``YUfb]b[`WcbhYbh Uj U]`UV`Y`cb`A ccX`Y`Zfca `K YXbYgXUmcZK YY_ ' "'D`YUgY`bchY`h\Uhk Y`VY[]b`dcXWUghfYWcfX]b[g Zcf`mci f`gYWcbX`UggYgga Ybh]b`WUgg`h\]g`k YY_"
@YWi fY	: &: '@YWhi fY. 'H]a Y`]bYg'! '6]fh\ ž'8YUh\ UbX'@]ZY'Cb`]bY H\]g'k]``'VY'Ub']bhYfUWhj Y'`YWhi fY'i g]b['X][]hU` hYW\bc`c[mZcf'Ui X]YbWY'dUfhJWJdUhJcb"'Mci 'k]``'VY Ug_YX'hc'fYZYWhicb'h\Y'YI dYf]YbWY'cZYb[U[]b['k]h\ hYW\bc`c[m]b'U'fij Y'Ui X]YbWYfWcbhYI h''H\Y'WcbhYbh UbX'XY`]j YfmcZh\Y''YWhi fY'k]``'[c'hck UfXg'hi hcf]U`g]b'kYY_'h\fYY'''D`YUgY'fYa Ya VYf'hc'U`gc'W\YW_ A ccX`Y'Zcf'g\cfhicb`]bY'UWhjj]hjYg'UbX'j]XYcg'Ug dfYd'Zcf'mci f'hi hYg']b'k YY_'Zjj Yž'UbX'hc'_YYd'cb
5ggYgga Ybh	hcd cZUggYgga YbhdfcWYggYg" . 5 ggYgga YbhCbY. 'Wca d`YhYX'Vm: f]XUm % h\ 'Uh'%%) \$da K YY_`mcb`]bY`fYgdcbgYg`k]``'VY`Z]bU`]gYX`k]h\ cbY `UghfYZYWf]j Y`fUg_`cj Yfj]Yk]b[`f\ Y`dUghZci f`k YY_g cZgh Xm''D`YUgY`gYY`A ccXY`Zcf`XYfU]`g"
	@YWi fY

		•
K_YY_') .'%*'A UfWX'!'&\$ A UfWX	Hi hcf]U`	

		·
K YY_`+.'' \$`A UfWX`!`' 5df]`	Hi hcf]U`	Hi hcf]U`. '8][]hU` +bh]a UW]Yg`UbX '5 ZZYWh Hi hcf]U`g`VUgYX`cb`h\Y`Wta V]bYX`fYgci fWYg`cZh\Y k YY_`g]I 'Z&Z`YWh fY`S` V`cb`]bY`WtbhYbh'`D`YUgY bchY. '5ggYgga YbhH\fYY`fk cf_g\cdd]b['cZ'mci f Z]bU``dfcYWHtk]```Wta a YbWY`h\]g`k YY_`]b`WUgg"
	6`YbXYX	Cb`]bY'@YWhifY.'5"="UbX'6YWca]b['AcfYh\Ub' <iaub 'ufy'yl="" bc'z&z`ywhifyg'h\]g'k="" dywhyx'hc<="" hmci="" td="" yy_žvi=""></iaub>

		<u> </u>
K YY_'%\$.`&\$`5df]`'!`&(5df]`	Hi hcf]U`	A U_Y!I d 7`UggYg ZcfAcbXUmHi hcf]U`g. K cf_žD`UmUbX'8][]hU`8YhcI D`YUgY'bchYžcb`mAcbXUmhi hcf]U`g'k]``fi b h\]g k YY_'Ug'a U_Y!i d `Yggcbg Zcf'h\Y'k YY_'- di V`]W \c`]XUm''Hi YgXUmhi hYg'k]``bchVY'fi bb]b["''H\]g]g'h\Y'Z]bU`k YY_'cZ5ggYgga YbhH\fYY K cf_g\cdd]b['Zcf'AcbXUmHi hcf]U`g"
	5ggYgga Ybh	A cbXUmHi hYg'Cb`m' @UghbchYg'cZ5ggYgga YbhH\fYY'K cf_g\cdd]b[UXXYX'rc'cb`]bY'k cf_g\cdd]b['XcW'a YbhUh]cb'Vm K YXbYgXUm&&bXž'%%) \$da
	5ggYgga Ybh	5ggYgga Ybh: ci f. ≠xYdYbXYbh FYgYUfW. Dfc YWhgi Va]hhYX Vm5df]` &(h\ž'‰) \$da D`YUgY gYY'A ccX`Y ZcfXYhJ]`g`cb`\ck hc i d`cUX mci f`dfc YWiXcW a Ybhg`UbX`Z]`Yg"
K YY_`%\`&+`5df]``!`&, 5df]`		Bc'hi hcf]U`g'cf``YWhi fYg'fbb`]bY'cf'Z&ZŁ"

FYgci fWyg

DfYgWf]VYX F Ygci fWYg

 $D Y U g Y ' g Y Y ' A c c X Y ' Z c f ' U `` ' f Y e i] f Y X ' f Y U X] b [g ' U b X ' f Y g c i f W Y g '' M c i ' U f Y Y I d Y W Y X ' h c 'Y b [U [Y ' k] h ' Y U W ' c Z h Y g Y h f Y U X] b [g ' Z c f ' Y U W ' k Y Y _ f Y j Y b '] Z h \] g '] b j c ' j Y g ' g _] a a] b [' U b X ' g W U b b] b [' Z c f ' k Y Y _ g ' k \ Y f Y ' m c i ' \ U j Y \ Y U j m k c f _ ' W c a a] ha Y b hg ' Y h W L$

FYWca a YbXYX FYgci fW/g

D`YUgY`gYY`A ccX`Y`Zcf`U```fYWca a YbXYX`fYUX]b[g`UbX`fYgci fWfg"`5XX]h]cbU``a UhYf]U``k]``VY`dfcj]XYX`Zcf mci `hc`Yl d`cfY`h\Y`X]ZZYfYbha YX]i a gž`[YbfYg`UbX`X][]hU``Zcfa g`mci `a][\hW.ccgY`Zcfimci f`Z]bU``dfcYWf

7ci fgY 9j U'i Uhjcb UbX 8Yj Y'cda Ybh

Gh XYbhZYXVUW_]gij U`i YX`]b h\]g Wci fgY`UbX`\Y`dgii gi]a dfcj Y`mci f``YUfb]b[`YI dYf]YbW\"'-₺`h\Y`dUghž UbU`mg]g`cZA m9I dYf]YbW\"gi fj YmfYgi `hgžUg`k Y```Ug`X]fYWhZYXVUW_Zfca `gh XYbhgž`\Ug``YX`hc`fYXi W\X bi a VYfg`cZfYUX]b[gž'bYk `Wci fgY`hcd]Wg`UbX`h\Y`fYZ]bYa YbhcZUggYgga Ybh]bghfi Wf]cbg": cf'YI Ua d`Yž h\Y`YI dYWhJhcbg`Zcf'5ggYgga Ybh(. □₺X]j]Xi U``F YgYUfW\`DfcYWh\Uj Y`VYYb`a cfY`WYUf`mgYhci hZc``ck]b[gh XYbhZYYXVUW_"

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'\ZUi 'hk]h\'Hi fb]r]b'mci 'a Um'Udd'm\Zcf'Ub'YI hYbg]cb\ZVi hmci
a i ghfYhU]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]XYbWY 'rc'gi ddcfhmci f'YI hYbg]cb'Udd']\WUh]cb'''=\maintention
UfY'' bUYY''mfYWY']j Y'U'r]\W_Yhbi a VYf\ZVi h']Zmci 'hY'Yd\cbY'mci 'k]'''bYYX'rc'gdYW]\Z\WU'`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)``mj]U'Y]h\Yf'Hi fb]hjb'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'\\circ i fgY'g'A ccX`Y'g]hY'k]h\ U`hYfbUhj 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 žch\Yfg'k]``VY'bYk"'; U]b]b['U'gc`]X'i bXYfgHJbX]b['cZU``h\YfY`UhYX'UgdYWhg'cZ9@&9'k]``\Y`d'mci 'a U_Y'h\Y'a cghicZmci f'ghi X]Yg'UhI BGK "'\\hd.##qi V'YWfi |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'GUZYhmidc`]M]Yg/
- YI Ua]bUhcb dfcWXi fYg/
- gdYWJU``Wcbg]XYfUHjcb`]b`H\Y`Yj YbhcZ]``bYgg`cf`a]gUXj Ybh fY/
- gh XYbhYei]lmUbX X]gUV]`]lm/
- UbX'ch\Yf'YggYbhJU`'UWUXYa [W]bZcfa UhJcbž'gYY

\hdg.#k k k "Ufng"i bgk "YXi "Ui #W ffYbhgh XYbhg#UWJXYa]W]bZcfa Uhcb#dfchcWc`g![i]XY`]bYg#

.

⇒a U[Y'7fYX]h

D\chc \VmC \UX]a \Y1\5 \Y[\V]\Y \Ifca \DYI \Y\g

7F = 7CG

7 F = 7 C G 'Dfcj]XYf'7 cXY. '\$\$\$-,;