

### A YmYf'6i f[ Yf'ghcddh'9ldUbg]cb']b'XYb I G5.'6]hhYfZY`X'V`Y]Vh'Gc`UfghUbXcfh

A YmYf'6i f[Yf'ghcddh'D`ÀbY'ZØf'Y]bY'Gc`UfnY``YbZYfh][i b[']b7c`cfUXcž'gYhnh'Ui Z'6]hhYfZY`X!K c`ZYb'i bX'fYU[]Yfh'Ui Z:]bUbn]Yfi b[gdfcV`Ya Y"

8]Y'A YmYf'6i f[Yf'HYW\bc`c[m'5; ž'Y]b'GW\k Y]nYf'I bhYfbY\a Yb a ]h'Y]bYa 'ghUf\_Yb': c\_i g'Ui Z'X]Y'Gc`UfVfUbW\Yž'a i gg'gY]bY'D`ÀbY ni f'9I dUbg]cb']b'X]Y'I G5'ØVYfXYb\_Yb"'5`g'< Ui dh[fi bX'ZØf'X]YgYb GW\f]hh'[U`hYb'X]Y'UhhfU\_h]j Yb'Gi Vj Ybh]cbYbž'X]Y']b'XYb J YfY]b][hYb'GhUUhYb'`cW\_Yb"'8cW\'a ]h'XYf''Øb[ghYb'A]hhY]`i b[ž XUgg'XUg'ZØf'7c`cfUXc'Gdf]b[g'[Yd`UbhY'K Yf\_'ni f'<YfghY``i b[j cb'Gc`UfnY``Yb'bi b'b]W\h'fYU`]g]Yfh'k]fXž'ghY\h'XUg'I bhYfbY\a Yb j cf'Y]bYf'i bYfk UfhYhYb'K YbXi b["

I fgdfØb[`]W\`\UhhY`A YmYf`6i f[Yf`[fc»Y`<cZZbi b[Yb`]b`X]Y
9fÒZZbi b[`X]YgYf`bYi Yb`: Yfh][i b[gghÀhhY`[YgYhnhž`XcW\`bi b
a ØggYb`X]YgY`D`ÀbY`[Yghcddh`k YfXYbž`XU`XUg`Dfc^Y\_h`b]W\h
Z]bUbn]YfVUf`]gh"`8]YgY`?Y\fhk YbXY`ØVYffUgW\hij]Y`Y`]b`XYf
6fUbW\Yž`]bgVYgcbXYfY`Ub[Yg]W\hg`XYf`Z]bUbn]Y``Yb
<YfUi gZcfXYfi b[Ybž`a]h`XYbYb`XUg`I bhYfbY\aYb`k Y]hYf\]b
\_cbZfcbh]Yfh`]gh"`5bghUhh`g]W\`Ui Z`X]Y`9I dUbg]cb`]b`X]Y`I G5`ni
\_cbnYbhf]YfYbž`k]fX`AYmYf`6i f[Yf`gY]bY`VYghY\YbXY
DfcXi\_h]cbg\_UdUn]hÀh`]b`6]hhYfZY`X!K c`ZYbž`GUW\gYb!5b\U`hž
ZcfhZØ\fYb"

#### BYiY'5igf]WXhib[']b'6]hhYfZY`X!K c`ZYb

8 Ugʻl bhYfbY\a Ybʻ\UhʻUb[Y\_ØbX][hž'XUggʻX]Y Gc`UfnY``YbdfcXi \_h]cbʻ]bʻ6]hhYfZY`X!K c`ZYbʻXUgʻ FØW\_[fUhʻXYf Gc`UfnY``Ybj Yfgcf[i b[ˈj cbˈA YmYfʻ6i f[YfʻV]`XYbʻgc``"8]YgY 8 Yf'J cfghUb X'XYg'I bhYfbY\a Ybg'\UhhY'9bXY'A Àfn'bcW\'X]Y
5 Vg]W\h'[YÀi » Yfhž'X]Y'DfcXi \_h]cb']b'6]hhYfZY`X!K c`ZYb'V]g'9bXY
XYg'\*J\fYg'Ubni dUggYb'cXYf'a Ò[`]W\Yfk Y]gY'[Ubn'Y]bni ghY``Yb"
8]YgY'd`Òhn`]W\Y'8fY\i b['i a '%, \$'; fUX'nY][h'X]Y'XmbUa ]gW\Y
BUhi f'XYf'; `cVU`]g]Yfi b[']b'XYf'\*DXi ghf]Y'i bX'X]Y
< YfUi gZcfXYfi b[Ybž'X]Y'I bhYfbY\a Yb'VY]']bhYfbUh]cbU`Yb
\*Dj Ygh]h]cbYb'VYk À`h][Yb'a ØggYb"

#### 5 i gk ]f\_i b[Yb Ui Z 6 YgW À Zh][hY

 $8 ]Y `9b hg W Y] Xi b [ "j cb" A Ym Yf" 6i f [ Yf ž' X] Y "Dfc Xi \_h] cbgghf Uh Y [ ]Y Ubni d Ugg Yb ž'gh Y W_h 'j c`` Yf' = a d`]_Uh] cb Yb "'9g "gh Y``h 'g] W "X] Y :: f U [ Yž c V 'X Ug 'l bh Yfb Y \ a Yb '] b 'X Yf "@U [ Y '] gh ž' X Ug 'b ch k Yb X] [ Y 'J Yfh f Ui Yb ]b 'X] Y "A Åf_h Y 'k ]Y X Yf \ Yfni gh Y ``Yb 'i b X '[ `Y] W n Y] h] [ 'Y] b Yb "gh UV] `Yb i b X 'Y ZZ Y_h] j Yb 'Dfc Xi _h] cbgd f cn Ygg 'Ui Zf Y W hni Yf \ U`h Yb "'8 ] Y 5 V \ Åb [ ] [ _Y] h 'j cb 'G i V j Ybh] cb Yb 'i b X 'dc`] h ] g W Yb Y X ]b [ i b [ Yb '_Obbh Y 'g] W 'U`g'_f] h ] g W Yf :: U_h cf 'Yfk Y] g Yb ž X Yf 'X] Y '9 b h g W Y] Xi b [ Yb 'X Yg 'l bh Yfb Y \ a Yb g 'V YY] b Z i g g h "$ 

 $5a \ "9bXY"V"Y]Vh"UVnik UfhYbž"k ]Y"g]WX"X]YgY"ghfUhY[]gWXY\\ BYi Ui gf]WXhi b["Ui Z"X]Y"ni <math>\_\emptyset$ bZh][Y"K YhhVYk YfVgZÀ\][ $\_$ Y]h"j cb

A YmYf'6i f[ Yf'Ui gk ]f\_h"'8 Ug'l bhYfbY\a Yb'k ]fX'bi b'[ Ynk i b[ Yb gY]bž'g]W\'a Y\f'Ui Z'gY]bY'VYghY\YbXYb'GhÀf\_Yb'ni '\_cbnYbhf]YfYb i bX'[ `Y]W\nY]h][ 'gY]bY'DfcXi \_h]cbg\_UdUn]hÀhYb']bhY``][ Ybh'ni bi hnYb"

# 9]b'6`]W\_'Ui Z'X]Y'< YfUi gZcfXYfi b[Yb'XYf Gc`Uf]bXi ghf]Y

8]Y'U\_hi Y``Y'9bhk ]W\_`i b['VY]'A YmYf'6i f[Yf'k ]fZh'Y]b'@]W\h'Ui Z'X]Y < YfUi gZcfXYfi b[Ybž'a ]h'XYbYb'X]Y'[YgUa hY'Gc`UfVfUbW\Y\_cbZfcbh]Yfh']gh''Gc`UfZ]fa Yb'a ØggYb'b]W\h'bi f']bbcj Uh]j Y HYW\bc`c[]Yb'Ybhk ]W\_Y`bž'gcbXYfb'Ui W\'Z]bUbn]Y``Y'GhfUhY[]YbZ]bXYbž'i a ']b'Y]bYa 'g]W\'fUgUbh'j YfÀbXYfbXYb'A Uf\_h'YfZc`[fY]W\ni 'gY]b''8]Y'ghY][YbXY'?cb\_i ffYbn'Ui Z'XYa '[`cVU`Yb'A Uf\_h\_\\_\ObbhY'X]Y'A Uf[Yb'k Y]hYf'i bhYf'8fi W\_'gYhnYb'i bX'YfZcfXYfhž'XUgg I bhYfbY\a Yb'k]Y'A YmYf'6i f[Yf'ZYI]VY`'V`Y]VYb'i bX'g]W\'gW\bY``UbdUggYb''

8]Y '9bhk ]W\_`i b[Yb`\_ObbhYb`Ui W\`U`g`Y]b`G][bU``j YfghUbXYb k YfXYbž'XUgg`bUW\\U`h][Y`DfU\_h]\_Yb`i bX`Y]b``Ub[Zf]gh][Yf': c\_i g Ui Z'9ZZ]n]Ybn'i bX`? cghYbgYb\_i b[Yb`ZØf`X]Y`Ni \_i bZh`XYf Gc`Uf]bXi ghf]Y`YbhgW\Y]XYbX`g]bX"'9]bY`gc`W\`ghfUhY[]gW\Y BYi Ui gf]W\hi b[`Yfa O`[`]W\hYg':]fa Ybž'ghUV]``ni `cdYf]YfYbž'gY`Vgh k Ybb`YI hYfbY`I a ghAbXY`k]Y`[Ycdc`]h]gW\Y`GdUbbi b[Yb`cXYf]bZfUghfi \_hi fY``Y`<YfUi gZcfXYfi b[Yb`Ui ZhfYhYb"

A YmYf'6i f[Yf'\Uh']b'XYb'`YhnhYb'\J\fYb'[fÒ» YfY'GWk ]Yf][\_Y]hYb Ui Z'XYa 'A Uf\_h'ZØf'Gc`UfnY``Yb'i bX'!a cXi `Y'Yf`YVh'''8]Y': ]fa Už'X]Y`Ub[Y'NY]h']b'XYf'GWk Y]n'j cf'U``Ya 'ZØf']\fY'\bcj Uh]cbg\_fUZh'i bX]\fY'HYWkbc`c[]Yb'VY\_Ubbh'k Ufž'ghY\h'Yhnh'i bhYf'8fi W\_ž]bgVYgcbXYfY'Xi fWk'XYb']bhYbg]j Yb'[`cVU`Yb'K YhhVYk YfV'i bXjc`Uh]`Y'A Uf\_hVYX]b[i b[Yb"'Bi f'Xi fWk'ghUUh`]WkY'Gi Vj Ybh]cbYbi bX'I bhYfghØhni b['k]fX'A YmYf'6i f[Yf']b'XYf'@U[Y'gY]bž\_cbghUbhY'DfcXi \_h]cbgb]j YUi g'Ui ZfYWkhni Yf\U`hYb'i bX'g]Wk']a A Uf\_h'ni 'VY\Ui dhYb"

6YgcbXYfg'X]Y'dc`]h]gW\Yb'9bhgW\Y]Xib[Yb']b'XYb'IG5ž'X]Y GiVjYbh]cbYb'ibX'5bfY]nY'ZØf'YfbYiYfVUfY'9bYf[]Yb'gh\Af\_Ybž k ]f\_Yb'k ]Y'Y]b'A U[bYh'ZØf']bhYfbUh]cbU`Y'I bhYfbY\a Yb"'8Yf

♣DZUh]cb'FYXi Wh]cb'5Whž'XYf']a '\*J\f'&\$&&'j YfUVgW\]YXYh'k i fXYž
ghY``h'i a ZUb[fY]W\Y'Z]bUbn]Y``Y'A]hhY``ni f'JYfZØ[i b[ž'X]Y
I bhYfbY\a Yb']a '6YfY]W\'XYf'YfbYi YfVUfYb'9bYf[]Yb'Ubn]Y\Yb
gc``Yb"'Hfchn'X]YgYf'j ]Y'j YfgdfYW\YbXYb'FU\a YbVYX]b[i b[Yb
g]Y\h'g]W\'A YmYf'6i f[Yf'bi b'[Ynk i b[Ybž'gY]bY'ghfUhY[]gW\Y
5i qf]W\hi b['ni 'ØVYfXYb\_Yb"

# 8]Y'k]fhgW\UZh`]W\Y'G]hiUh]cb'XYf Gc`Uf]bXighf]Y

8]Y'Gc`Uf]bXi ghf]Y'\Uh']b'XYb'`YhnhYb'\J\fYb'Y]b'ghUf\_Yg
K UW\ghi a 'j YfnY]W\bYhž'YXcW\'\UVYb'a Y\fYfY'YI hYfbY
: U\_hcfYbž'k]Y'XYf'5bgh]Y['XYf'Fc\ghcZZdfY]gY'i bX'[`cVU`Y
@]YZYf\_YhhYbdfcV`Ya Yž'X]Y'DfcXi \_h]cbg\_cghYb'Yf\YV`]W\'Yf\O\h''
@Ui h'XYa '\DhYfbUh]cbU`'9bYf[m'5[YbWmf\D5\E'k i fXY']a '\J\f'&\&\A\Y]bY'FY\_cfXdfcXi \_h]cb'j cb'Gc`UfYbYf[]Y'j YfnY]W\bYhž'X]Y'\\S\+\\$;][Uk Uhh'YffY]W\hY'''8]YgY'9bhk]W\_`i b[Yb']a 'A Uf\_h'ZØ\fYb'XUni žXUgg'I bhYfbY\a Yb'k]Y'A YmYf'6i f[Yf'ghfUhY[]gW\Y'5bdUggi b[Yb']cfbY\a Yb'a ØggYbži a '\_cb\_i ffYbnZ\\]['ni'V`Y]VYb''

## 8]Y'5igk]f\_ib[Yb'UiZ'A]hUfVY]hYf'ibX GhUbXcfhY

8]Y '9b hgWX Y]Xi b[ 'j cb 'A YmYf'6i f[ Yfž'XUg'Dfc 'Y\_h']b '7 c`cfUXc Gdf]b[g'ni 'ghcddYb'i bX'X]Y : Yfh][i b[ ']b '6]hhYfZY`X!K c`ZYb Ui gni VUi Ybž\Uh'i ba ]hhY`VUfY '5 i gk ]f\_i b[ Yb 'Ui Z'X]Y 'A ]hUfVY]hYf" K À\fYbX'X]Y '6 YgW\ÀZh][ hYb ']b '6]hhYfZY`X!K c`ZYb'j cfYfgh']\fY GhY``Yb 'VY\U`hYb'\_ObbYbž']gh'X]Y 'GW\`]Y» i b[ 'XYf Gc`Ufa cXi `dfcXi \_h]cb']b': fY]VYf[ 'Y]bY'V]hhYfY'D]``Y'ZØf'X]Y Xcfh][ Yb'(\$\$'A ]hUfVY]hYf"'Gc`W\Y'ghfi \_hi fY``Yb'J YfÀbXYfi b[ Yb dUgg]YfYb'\Ài Z][ ']b'XYf'\DXi ghf]Yž']bgVYgcbXYfY'k Ybb'X]Y'A Àf\_hY g]W\AbXYfb'i bX'I bhYfbY\a Yb'[ Ynk i b[ Yb'g]bXž']\fY'GhfUhY[ ]Y gW\bY``'Ubni dUggYb"

I a 'X]Y'bY[Uh]j Y'5i gk]f\_i b[Yb'XYf'GW\`]Y»i b[Yb'UVni ZYXYfbž\_ObbhY'A YmYf'6i f[Yf'Dfc[fUa a Y'ni f'K Y]hYfV]`Xi b['i bX

I a gWki `i b[ 'Y]bZØ\fYbži a 'VYhfcZZYbYb'A]hUfVY]hYfb'bYi Y VYfi Z]WkY'DYfgdY\_h]j Yb'ni 'V]YhYb"'Gc`WkY'A U» bU\a Yb'g]bX']b XYf'6fUbWkY'b]Wkhi bØV`]Wk'i bX'\_ÒbbhYb'XUni 'VY]hfU[ Ybž'XUgg Y\Ya U`][ Y'A]hUfVY]hYf']b'UbXYfYb'6YfY]WkYb'XYf'Gc`Uf]bXi ghf]Y : i » 'ZUggYb'\_ÒbbYb"

8 Y hU]`c

6Ygi WXYb G]Y i bg Ui Z b!U[ "XY