

G]bbYgYf`YVb]ggY. FY]gYb a]h': c_i g'Ui Z ; YgWX a UW_'8 i Zh'i bX'? `Ub[

9bhXYW_Yb'G]Yž'k]Y'FY]gYb'X]Y'G]bbY'XifW\'?i`]bUf]_ž'8iZh ibX'Aig]_'VYfY]W\Yfb''jcb'; UiaYbZfYiXYb'V]g'ni ?`Ub[kY`hYb"



GhY``X]f'j cfž'Xi 'ghY\gh'Ui Z'Y]bYa 'gW\a U`Yb'A Uf_h']b'Y]bYf'ZYfbYb GhUXh'i bX'XYf'j YfZØ\fYf]gW\Y'8i Zh'j cb'Zf]gW\'[YVUW_YbYa '6fch a]gW\h'g]W\a]h'XYb'k Øfn][Yb'5fca Yb'Yl ch]gW\Yf'; Yk ØfnY"'8i b]a a gh'Y]bYb'6]ggYbž'i bX'Yg']ghž'U`g'k ØfXY'X]Y'[UbnY'DU`YhhY'XYf 5fca Yb'Yl d`cX]YfYb''FY]gYb']gh'gc'j]Y``a Y\f'U`g'bi f'Ubg'N]Y``ni [Y`Ub[Yb'''Yg']gh'Y]b': Ygh'ZØf'X]Y'G]bbY'''\delta'X]YgYa '5fh]_Y` bY\a Yb'k]f'X]W\a]h'Ui Z'Y]bY'FY]gYž'X]Y'XY]bYb'; Ui a Yb j YfnUi VYfhž'XY]bY'BUgYb`ÒW\Yf'a]h'bYi Yb'8 ØZhYb'VYhÒfh'i bX'XY]b C\f'a]h'a i g]_U`]gW\Yb'?`Àb[Yb'j Yfk Ò\bh''

@Ugg'X]W\"j cb'_i `]bUf]gW\Yb'9bhXYW_i b[Yb']bgd]f]YfYbž'YbhXYW_Y X]Y'8i ZhY'X]YgYf'K Y`h'i bX'[Yb]Y \Rightarrow Y'X]Y'?`Ub[kY`hYbž'X]Y'X]f'Ub YXYa 'bYi Yb'Cfh'VY[Y[bYb"'DUW_'XY]bY'?cZZYf'ZØf'Y]b'5VYbhYi Yfž XUg'b]W\h'bi f'XY]bY'5i [Ybž'gcbXYfb'Ui W\'XY]bYb'; Ui a Ybž'XY]bY

 $B UgY'i bX'XY]b'<Yfn'Z\emptyset[Yb'''6]gh'Xi''VYfY]hž'X]Y'K Y`h'a]h'U``Yb G]bbYb'ni 'YfZU\fYb3'8 Ubb'`Ugg'i bg'[Ya Y]bgUa''Ui ZVfYW\Yb''$

; Ui a YbZfYi XYb Ui Z XYf FY]gY. ?i`]bUf]gWXY 9bhXYW_i b[Yb ZØf YWX hY : Y]bgWX a YW_Yf

5i Z'a Y]bYb'FY]gYb'YbhXYW_Y']WX'b]WXh'bi f'bYi Y'C fhYžgcbXYfb
'UggY'a]WX'Ui WX'j cb'XYb'5fca Yb'i bX'; YgWXa ÀW_Yfb'XYf'K Y`h
j YfZØ\fYb"'>XYg'@UbX'V]YhYh'gY]bY'Y][YbY'_i `]bUf]gWXY'=XYbh]hÀhž
Y]bY'A]gWXi b['Ui g'HfUX]h]cbYbž'fY[]cbU`Yb'Ni hUhYb'i bX'XYf
@]YVY'ni a '?cWXYb"'=b'XYb'`YV\UZhYb'A Àf_hYb'j cb'6Ub[_c_
VY]gd]Y`gk Y]gY'Yf'YVY']WXž'k]Y'g]WX'X]Y'; Yk ØfnY']b'XYf'@ Zh
j YfY]bYb.'XYf'gØ»`]WXY'8i Zh'j cb'Zf]gWXYa 'A Ub[c'a]h'gWXUfZYb
7\]`]'i bX'XYa '\YfVYb'5fca U'j cb'@Ya cb[fUg"'GhfYYhZccX!<ÀbX`Yf
nUi VYfb'\]Yf'a]h'Y]bYa 'K c_'_Ogh`]WXY'DUX'H\U]ž'XUg'\Y]» hž'XYf
; YgWXa UW_'j cb'[YfOghYhYb'9fXbØggYb'j Yfa]gWXh'g]WX'a]h'XYf
: f]gWXY'XYg'?cf]UbXYfg' 'Y]b'i bj Yfk YWXgY`VUfYg
; YgWXa UW_gYf`YVb]qž'XUg']WX'b]WXh'gc'gWXbY``'j Yf[YqqY''

9]b k U\fYg: YghZØfX]Y G]bbY Yfk UfhYha]WX \]b[Y[Yb]b XYb; Uf_ØWXYb XYfj]YhbUa Yg]gWXYb < Ui dhghUXh < Ubc]" 6Y]Y]bYa 6ck ``D\c k]fX a]f X]Y Ni VYfY]hi b[`XYg B Uh]cbU`[Yf]WX hg ni a GWX Ui gd]Y`. `XUa dZYbXY 6fØ\YžX]Y `Ua `GhfU» YbfUbX ØVYf cZZYbYa :: Yi Yf _ÔWXY hž Zf]gWX [YgWX b]hhYbY ? fÀi hYf i bX nUfhY F]bXZY]gWX g`]WYgžX]Y `\ Ufa cb]gWX `]a `FY]gbi XY `VYhh fi \Yb" `\XXYf @ÔZZY``]ghY]bY '9I d`cg]cb'j cb '5fca Ybž'k À\fYbX 'X]Y ; YfÀi gWX Y XYf GhUXh]a `<]bhYf[fi bX 'ZØf @YV\UZh][_Y]h 'gcf[Yb" '8 Ug '9f`YVb]g k]fX i bj Yf[Ygg`]WX ž'b]WX h ni `Yhnhž'k Y]`]WX 'Yg 'a]h '9]b\Y]a]gWX Yb

8]Y'GØ» gdY]gYb']b'XYf'HØf_Y]'g]bX'Y]b'k Y]hYfYg'? Ud]hY`'a Y]bYf _i`]bUf]gWXYb'FY]gY"'\D'\\GhVb'\\CghVb'\Yff`]WX'6U_`Uj U'''Y]bY'\Yff`]WX gØ» Y'JYfZØ\fi b['Ui g'XØbbYb'HY][V'\AhhYfbž'BØggYb'i bX <cb][g]fi dž'X]Y'Ui Z'XYf'Ni b[Y'nYf[Y\h"'<]Yf'g]hnY']WX']b'Y]bYa _`Y]bYb'7UZÄž'i a [YVYb'j cb'XYf'6Uû`Ua U!A i g]_'Y]bYg GhfU» Yba i g]_UbhYbž'XYf'X]Y'5ha cgd\AfY'ni gAhn`]WX'j YfnUi VYfh" Gh]a a [Yk U`h]['YfnA\`h'Yf'j cb'XYb'C ga Ub]gWXYb'DU`AghYbž k A\fYbX']WX'XUg'_bi gdf][Y'; YVAW_'[Yb]Y» Y'i bX'Y]bY'HUggY ghUf_Yb'hØf_]gWXYb'?UZZYY'VYghY``Yž'XYfYb'; YgWXa A\W_Yf'dYfZY_h a]hY]bUbXYf'\Ufa cb]YfYb"

XXY'FY]gY'V]YhYh'Y]bY'bYi Y'; Y`Y[Yb\Y]hžX]Y'?i`]bUf]_'XYf'K Y`h
ni 'Yf_i bXYbž'i bX']WX'_Ubb'Yg'_Ui a 'Yfk UfhYbž'a Y]b'bÀWXghYg

5VYbhYi Yf'ni 'd`UbYb"'8Ybb'k]Y'[YgU[h'9WXhY': Y]bgWXa YW_Yf
k]ggYbž'XUgg'XYf'K Y['Xi fWX'XUg'<Yfn'Y]bYg'@UbXYg'cZh'Xi fWX
gY]bYb'A U[Yb'ZØ\fh°
</pre>

8 i ZhY 5 VYbhYi Yf. 'K]Y 'XYf'; Yfi WX 'j cb ZYfbYb '@ÀbXYfb 'X]Y 'G]bbY 'j YfnUi VYfh

8 UgʻGWX bi ddYfbʻUbʻY]bYaʻbYi YbʻDʻUhnʻ]ghʻcZhʻXYfʻYfghYʻGWX f]hhʻ]b Y]bʻi bj Yf[Yggʻ]WX Ygʻ5VYbhYi Yf"ʻ5`gʻ]WXʻ]bʻX]Yʻ; UggYbʻj cb A UffU_YgWX Y]bhUi WX hYži a k Y\hYʻa]WXʻY]bʻA]IʻUi gʻZf]gWX Yb A]bnV`AhhYfbžYI ch]gWX Ybʻ; Yk ØfnYbʻi bXʻXYaʻVYhÒfYbXYbʻ8 i Zh j cbʻZf]gWX [YVUW_YbYaʻ6fch"8]Yʻ@ʻZhʻk UfʻYfZØ``hʻj cbʻXYfʻgØ» Yb BchYʻXYgʻCfUb[YbV`ØhYbk UggYfgžʻXUgʻk]YʻY]bʻi bg]WX hVUfYfʻ: UXYb X]YʻGYYʻYʻXYfʻGhUXhii a gWX`Ub["ʻ6Y]ʻY]bYaʻGdUn]Yf[Ub[ʻXi fWX XYbʻGci_YbhXYW_hYʻ]WXʻY]bYbʻ_Y]bYbʻGhUbXžʻUbʻXYaʻ`c_UʻY ?fÀi hYfʻj Yf_Ui Zhʻk i fXYb"ʻ8YfʻJYf_Ài ZYfž'Y]bʻÀʻhYfYfʻ<Yffʻa]h Y]bYaʻVfY]hYbʻ@ÀWXYʻbžʻVchʻa]fʻUbž'Y]bYbʻGhfUi» 'a]h i bhYfgWX]YX`]WXYbʻ?fÀi hYfbʻni gUa a Ybni ghYʻYb''8Yfʻ; Yfi WXʻj cb [YhfcW_bYhYaʻH\ma]UbžʻFcga Uf]bʻi bXʻXYaʻ]bhYbg]j Ybʻ8 i Zhʻj cb Y]ba Uʻ][Ybʻ; Yk ØfnYbʻk]YʻFUgʻYʻ<Ubci h'k UfʻY]bZUWX ØVYfk Àʻh][YbX"

±0 'XYb 'GhfU» Yb 'j cb 'J UfUbUg]'Ua '; Ub[Yg'Yf`YVhY']W\ 'Y]bY 'UbXYfY

: UWW hhY 'XYf '8 ØZhY"' <]Yf 'k UfYb 'Yg 'b]W h bi f 'X]Y 'GdY]gYbž X]Y 'X]Y @ ZhYfZØ``hYbž gcbXYfb 'Ui W 'X]Y '5 fca Yb 'XYg '\Y]`][Yb 'HYa dY`g" 8]Y 'A]gWXi b['Ui g F Ài W YfghÀVW Ybž ? fUbnV`i a Yb 'i bX 'XYf ghUi V][Yb '9fXY 'YfnYi [hY 'Y]bY '5 ha cgd\ÀfYž 'X]Y 'X]Y 'G]bbY 'UbfY[hY i bX 'ni a 'J Yfk Y]`Yb 'Y]b`i X" '8 Ug '5 b[YVch 'Ub 'ni VYfY]hYhYb 'GdY]gYb k Uf 'ØVYfk À`h][YbX. 'J cb '_Ògh`]WXYb '7\UUh! GhÀbXYb 'V]g`\]b 'ni 'XYb VYfØ\a hYb '@Ugg]ž 'X]Y 'Zf]gWX 'Ui g 'XYb 'HcbhÒdZYb 'gYfj]Yfh'k i fXYb" ↓W 'k U[hY 'a]WX 'Ub 'Y]b'; `Ug 'a Ub[c ZUfVYbYf '@Ugg]ž 'XYf 'a]WX 'a]h gY]bYa 'gØ» Yb '8 i Zh'i bX 'WfYa][Yb'; YgWXa UW_'ØVYfk À`h][hY" '≯XYf GWX 'i W_'k Uf 'k]Y 'Y]b '@]WX hghfU\``Ub 'Y]bYa '\Y]» Yb 'HU["

± XYb'< Ø[Y`b'j cb'Hcg_UbU'i a Ufa hY a]W. XYf'ZY]bY 8 i Zh'j cb C`]j YbÒ`i bX'fY]ZYb'HfUi VYb"'5 i Z'Y]bYf'_`Y]bYbž'ZUa]`]Yb[YZØ\fhYb: Uhhcf]U'k i fXY']W. ni a '2 `j Yf_cghi b[gh]gW. [Y`UXYb"'8Yf Yl ei]g]hY'; Yfi W. j cb'Xi ZhYbXYb'? fÀi hYfbž'X]Y'i bhYf'XYb C`]j YbVÀi a Yb'k i W.gYbž'a]gW.hY'g]W. 'a]h'XYa 'Ufca Uh]gW.Yb: `U]f'XYf'VYbUW.VUfhYb'K Y]bhfUi VYb"'K À\fYbX'Y]bYg'Fi bX[Ub[g Xi fW.X]Y'K Y]bVYf[Y'YfnÀ\`hY'a]f'XYf'K]bnYf'a]h'`Yi W.hYbXYb 5 i [Yb'j cb'XYb'j YfgW.]YXYbYb'HfUi VYbgcfhYb'i bX'XYa ₺\f[Ub[ž'XYf'XYb'dYfZY_hYb'8 i Zh']a 'K Y]b_ÒfdYf'j Yf']Y\"'9g'k Ufž U`g'k ØfXYb'X]Y'5fca Yb'XYf'9fXY'gY`Vgh'ni a '@YVYb'Yfk UW.Yb"

8 ØZhY 'g]bX 'b]W\ h'bi f'Z ØW\ h][Y '9a d Z]bXi b[Ybž'g]Y 'g]bX; YgW\]W\ hYbž'X]Y 'i bg']b'ZYfbYb'@ÀbXYfb'i bX'?i `hi fYb'j YfUb_Yfb"

♣b'XYf'K Y`h'XYf'; YfØW\Y'Yf`YVY']W\ 'b]W\ h'bi f'XUgž'k Ug'j cf

?`Ub[kY`hYb'Yf`YgYb.'8]Y'aig]_U`]gW\Yb <][\`][\hg'ibgYfYf'FY]gYb'ZØf'C\f'ibX'<Yfn</pre>

K Ybb'a Ub'Ui ZFY]gYb'[Y\hzYfÒZZbYb'g]W\'b]W\h'bi f'j]gi Y``Yž gcbXYfb'Ui W\'U_i gh]gW\Y'@UbXgW\UZhYbz'X]Y'XUg'< Yfn'VYfØ\fYb i bX'X]Y'GYY`Y'VYYVYb"'+b'XYb'j Yfk]b_Y`hYb'; UggYb'XYf gØXgdUb]gW\Yb'GhUXh'; fUbUXU'VY]gd]Y`gk Y]gYz']gh'XUg'D`ÀhgW\Yfb XYg'K UggYfg'Ui g'XYb'\]ghcf]gW\Yb'6fi bbYb'X]Y'dYfZY_hY 6Y[`Y]hi b['ni 'XYb'Y]XYbgW\UZh`]W\Yb'?``Ab[Yb'XYf': `Ua YbWc!;]hUffY'''K À\fYbX'Y]bYg'UVYbX`]W\Yb'GdUn]Yf['Ub['g'Xi fW\'XUg 5`VUmn£b!J']YfhY`z'Y]bYf'I B9G7C!K Y`h_i `hi fYfVYghÀhhYz'k]fX'a Ub gW\bY``j cb'XYf'Ai g]_Y]b['YZUb['Ybz'X]Y'Ui g'XYb'_Y]bYb'6Ufg'i bX Ui g'XYb': YbghYfb'XYf'hfUX]h]cbY``Yb'7'/£a YbYg'gW\U``h''<]Yf j YfY]bYb'g]W\F\mh\a Yb'i bX'A Y`cX]Ybz'X]Y'; YbYfUh]cbYb ØVYfXUi Yfh'\UVYbz'ni 'Y]bYf'Ya ch]cbU`Yb'8UfV]Yhi b['z'X]Y']b YXYa 'Hcb'XUq'GW\]W_gU``5bXU`i q]Ybg'k]XYfqd]Y[Y'h''

6Ygi Wha UbiX]Yidi `g]YfYbXYiA Yhfcdc`YiA UffU_YgWXžik]fXia UbjcbiXYbi?`Ab[YbiXYgiA Uf_hYgžiXYgiGci_žigcZcfhi]bigY]bYbi6Ubb[Ync[Yb"], VYfU``YfhÒbYbiXUgiF UggY`bijcbi; Yk ØfnYbžiXUg</br>
«Àa a Yfbijcbi?i bgh\UbXk Yf_žii bXiVYnUi VYfbXYiA Y`cX]YbžiX]YjcbihU`Ybh]YfhYbiGhfU» Yba i g]_YfbiXUf[YVchYbik YfXYb"'9gi[]Vh_Ui a iY]bYbiVYggYfYbiD`Uhnžii a iX]Yi9\fZifWXhijcfiXYfiA i g]_iXYf6YfVYfini Yf`YVYb"'8]YihfUX]h]cbY``Ybi@]YXYfžicZhiVY[`Y]hYhijcbiXYfY]bXfi W_gjc``Ybi; i Ya Vf]'i bXiXYbi<YfnghØW_YbiXYgcf]YbhU`]gWXYbi?`Ub[Yf`YVb]ggYgžigWXUZZYbib]WXhibi fiY]bY5ha cgd\ÀfYiXYfi: fYi XYžigcbXYfbiYfnÀ\`Ybi; YgWX]WXhYbžiX]YijcbXYfiA mh\c`c[]YiV]gini 'U``hÀ[`]WXYbi9fYVb]gqYbifY]WXYb"</p>

9]b'k Y]hYfYg'a i g]_U`]gW\Yg'<][\`][\h'ZUbX'a Ub']b'XYb''Unn][Yb GhfU» Yb'j cb'BYk 'Cf`YUbg''<]Yf'k]fX''YXY'9W_Y'ni a '6 \emptyset \bYbV]`Xž Ui Z'XYa 'j YfgW\]YXYbY'Gh]`f]W\hi b[Yb''j cb'7U'\h' b' \emptyset VYf'NmXYWc V]g'ni a 'hfUX]h]cbY``Yb'\Jnn'''`YVYbX]['k YfXYb'''8Yf'BUW\ha Uf_h']b XYf': fYbW\a Yb'GhfYYh'`\AXh'XUni 'Y]bž'XYb'Ui h\Ybh]gW\Yb'Gci bX XYf'GhUXh'ni 'Yf`YVYb'''A Ub'_Ubb'hU[Y`Ub['i a \YfgW\`YbXYfb'i bX XYb'A Y`cX]Yb'`Ui gW\Ybž'k \A\fYbX'a Ub'[`Y]W\nY]h]['XYb'ZY]bYb

5fca Yb'XYf'_fYc`]gW\Yb'?ØW\Y'bUW\[Y\h":8]Y'?ca V]bUh]cb'Ui g A i g]_'i bX'9ggYb']gh'\]Yf'Y]bY'_i bghj c``Y'Gma V]cgYž'X]Y'XUg'<Yfn Y]bYg'YXYb'FY]gYbXYb'\Ò\Yf'gW\`U[Yb'`Àggh"

B]Wkhini j Yf[YggYbi]ghix]Yia U[]gWkYi9fZU\fib[iY]bYgi?cbnYfhgi]a _i `hi fY``Ybi< YfnYbij cbik]Yb" =b `XYfidfi b_j c``Ybik]YbYf GhUUhgcdYficXYfiXYa `VYfØ\a hYbiA i g]_j YfY]bigWk]``YfbiX]Y
?`Àb[Yi_`Ugg]gWkYfiA Y]ghYfk Yf_YiXi fWkiX]Yi@ØZhYii bXiYbhZØ\fYb XYbiNi\òfYfi]bij Yf[Ub[YbYbi9dcWkYb" 8]YidfÀWkh][Yi5_i gh]_ii bX X]YiVYY]bXfi W_YbXYi5fWk]hY_hi fiX]YgYfi<Ài gYfia UWkYbiYXYb 6Ygi Wkini iY]bYa ii bj Yf[Ygg`]WkYbi9f`YVb]g" 8]Yii fYi XYiUbiY]bYa 5VYbXžiUbiXYa iXYfiVYfØ\a hYi 8cbUi k U`nYfij cbix\UbbiGhfUi gg`]j YiUi Z[YZØ\fhik]fXži]ghiY]bi; YZØ\`žiXUgia Ubik Y]hiØVYfiX]Y FØW_Y\fibUWki<Ui gYi\]bUi gia]hig]WkihfÀ[h"

8]Y'k Y`hi a gdUbbYbXYb'?`Ub[k Y`hYb'nY][Yb'g]W\']b'YXYa '@UbX i bhYfgW\]YX`]W\žXcW\'Yhnh`]W\'YfnÀ\`Yb'g]Y'U``Y'X]Y'; YgW\]W\hYb XYf'A YbgW\Yb"'9[U`ž'cV'Yg'XUg'gUbZhY'A i fa Y`b'Y]bYf'6UW\ZcfY``Y]b'Y]bYa 'gW\chh]gW\Yb'@cW\']gh'cXYf'X]Y'XfÒ\bYbXYb'6YUhg'XYf GUa VUf\mh\a Yb'Ub'?UfbYj U`']b'F]c'''X]Y'A i g]_'i bgYfYf'FY]gYb k]fX']a a Yf'Y]b'HY]`'i bgYfYf'9f]bbYfi b[Yb'V`Y]VYb'i bX'g]Y'Ui Z'X]Y i bhYfgW\]YX`]W\ghY'K Y]gY'ni a '@YVYb'Yfk YW_Yb"

 $GY \setminus Yb \cdot G]Y \cdot g]WX \cdot i \ a \ \check{z} \cdot Uha \ Yb \cdot G]Y \cdot h]YZY]b \cdot i \ bX \cdot `Ui \ gWX Yb \cdot G]Y \cdot XYa \cdot Di \cdot `g XYf \cdot ? i \cdot hi \ fYb\check{z} \cdot X]Y \cdot G]Y \cdot i \ a \ [YVYb'' \cdot K \ c \cdot k \]fX \to f \cdot b AWX ghYg \cdot g]bb \cdot]WX Yg 5VYbhYi \ Yf \cdot G]Y \cdot \]bZØ\ fYb 3 \ 8]Y \cdot K \ Y \cdot h \cdot k \ UfhYh \cdot XUfUi \ Zz \cdot XUgg \cdot G]Y \cdot g]WX Ui Z \cdot XYb \cdot K \ Y[\ a \ UWX Yb \ i \ a \ b]WX h \cdot bi \ f \cdot bYi \ Y \cdot C \ fhY z \cdot gc b XYfb \cdot Ui \ WX bYi \ Y \ ; \ YgWX a \ AW_Yfz \ ; \ YfØWX Y \ i \ bX \ ? \ Ab[Y \ ni \ Yf`YVYb'' \ A \ UWX Yb \cdot G]Y$

 $Y]bY`FY]gY\check{z}`X]Y` \Rightarrow fY`G]bbY`_]hnY`h`i bX`9f]bbYfi b[Yb`gWXUZZhž`X]YY]b`@YVYb``Ub[`Ub\U`hYb°$

8 YhU]`g

 $6\,Y\,gi\ WX\,Y\,b\,{}^*\!G\,]Y\,{}^*\!i\ b\,g\,{}^*\!Ui\ Z.\,{}^*\!Y\,]b\,Y\,!\,f\,Y\,]g\,Y\,{}^*\!X\,Y$