

F UdgV`ØhY'&\$&('!'9]b'Gma Vc`'ZØf'J]Y`ZU`h i bX'BUW\\U`h][_Y]h']b'XYf'XYi hgW\Yb @UbXk]fhgW\UZh

8]YFUdgV`ØhY`]b`8Yi hgW\`UbX`]gh`b]W\hibi f`Y]b

VYY]bXfi W_YbXYg`BUhi fgW\Ui gd]Y`žgcbXYfb`Ui W\`j cb
[fc»Yf`6YXYi hi b[`ZØf`X]Y`\Y]a]gW\Y`@UbXk]fhgW\UZh"

9fZU\fYb`G]Y`a Y\f`ØVYf`XYb`FUdgUbVUi žgY]bY`Ò_c`c[]gW\Y

6YXYi hi b[`i bX`gY]bY`Fc``Y`VY]`XYf`9bhk]W_`i b[

bUW\\U`h][Yf`?fUZhghcZZU`hYfbUh]j Yb"`5i »YfXYa `VYhfUW\hYb

k]f`X]Y`<YfUi gZcfXYfi b[Yb`XYg`?`]a Uk UbXY`g`i bX`X]Y

6YXYi hi b[`bYi Yf`[YbYh]gW\Yf`HYW\b]_Yb`ZØf`X]Y

DZ`UbnYbnØW\hi b["@YgYb`G]Y`a Y\f`]b`i bgYfYa `5fh]_Y`"

A]h'XYa '5i ZV`Ø\Yb'XYf'[Y`VYb'FUdgZY`XYf'VY[]bbh'Ui W\']b
X]YgYa '\$\J\f'Y]bYg'XYf'ZUgn]b]YfYbXghYb'BUhi fgW\Ui gd]Y`Y']a
XYi hgW\Yb': fØ\`]b["'5i Z'Y]bYf': `ÀW\Y'j cb'fi bX'%\%'A]``]cbYb
<Y_hUf'YfghfU\`h'XYf'FUdg']b'j c``Yf'6`ØhY'i bX'dfÀ[h'XUa]h'b]W\h
bi f'XUg'@UbXgW\UZhgV]`X\Z'gcbXYfb'Ui W\'Y]bYb'k YgYbh`]W\Yb'HY]`
XYf'XYi hgW\Yb'@UbXk]fhgW\UZh"

8 Yf F UdgUb V Ui `\ Uh Y] b Y ``Ub [Y 'HfUX]h]cb '] b '8 Yi hgW\ `Ub X 'i b X b]a a h Y] b Y GW\ `ØggY `fc ``Y '] b 'X Y f \ Y] a] gW\ Y b '@Ub X k] f hgW\ UZh Y] b "Fi b X '%\$ 'i 'X Y f X Y i hgW\ Y b '5 \leftwarp Y f Z \d W\ Y k Y f X Y b 'Y X Y g '\d\ Y f \alpha] h X Y f k] \leftwarp k] m X Y f '\ X \ M h] [gh Y b '\ Y] a] gW\ Y b '2 `d Z Ub n Y '\ 6 f Ugg] \leftwarp b Udi g \(\tilde{z} \) gc '] \ f \\ V c h U b] gW\ Y f 'B U a Y \tilde{z} V Y gh Y ``h'' 8] Y g Y f '\ 5 b V U i '] gh 'b] W\ h 'b i f \\ k \ f hg W\ UZh \] W\ 'V Y X Y i hg U a \(\tilde{z} \) gc b X Y f b 'U i \(W\ '\O_c \) c [] g W\ 'k Y f hj \(c \) "'' \\
K \(\tilde{A} \) f Y b X X Y f '\(6 \) \@h Y n Y] h 'k Y f X Y b 'X] Y '\ Y \X Y f 'n i 'Y] b Y a '< c hg d c h 'X Y f \(6 \) c X] j Y f g] h \(\tilde{A} h'' \(6 \) Y b Y b \(\tilde{z} < i a a Y \) b 'i b X 'Ub X Y f Y \(\dag \) g M k \(\tilde{A} f a Y b \)] b 'G W\ Uf Y b 'U i g \(\tilde{z} i a 'j ca 'B Y_h U f 'X Y f 'F Ud g V \) \@h Y b 'n i 'd f c \(Z \) h] Y f Y b \(\tilde{z} \) k Ug 'k Y g Y b h'] W\(\tilde{n} i f '; Y g i b X \ Y] h 'X Y f '\(6 \) Y b Y b j \(\O \) _Y f 'V Y] h f \(\alpha [h'' B] W\(\h) i a g c b g h 'g h Y \) h F Ud g 'X] Y 'k \(\tilde{y} \) h '\(\tilde{y} \) b '\(\tilde{y} \) h '\(\tilde{y

8]Y'X]Yg'À\f][Y'FUdgV`ØhY'gma Vc`]g]Yfh'a Y\f'U`g'bi f'XYb'Nm_`i g XYf'B Uhi f/'g]Y'ghY\h'Ui W\'ZØf'XYb': cfhgW\f]hh']b'XYf'9bhk]\W_`i b[bUW\\U`h][Yf'?fUZhghcZZU`hYfbUh]j Yb ž'VYhcbh'GhYd\Ub'5fYbgž; YgW\ÀZhgZØ\fYf'XYf'I b]cb'ni f': ÒfXYfi b['j cb'CY`!'i bX DfchY]bdZUbnYb'Y"'J"'fI: CDŁ"'8Yf'FUdg'X]Ybh'b]W\h'bi f'U`g k]W\h][Yf'Fc\ghcZZ'ZØf'@YVYbg!'i bX': i hhYfa]hhY`ž'gcbXYfb'Ui W\U`g'; fi bX`U[Y'ZØf'_`]a UZfYi bX`]W\YfY'?fUZhghcZZY'k]Y'XYb'Øb[gh]b'8Yi hgW\`UbX'Y]b[YZØ\fhYb'6%\$!8]YgY`"

8 | Y B i hni b ['j cb F UdgÒ` | b XYf 9fb À \ fi b ['_ObbhY 'ni _Øb Zh] ['bc W. kY]hYfini bY\a YbžiXYbbi]bgVYgcbXYfY'C`]jYbÒ`\Uhig]WXini `Yhnh Yf\YV`]WX`j YfhYi Yfh"8 YggYb DfcXi nYbhYb ``Y]XYb VYfY]hg`\Yi hY ni bY\a YbX'i bhYf'XYb'l a k Y`hi YfÀbXYfi b[Yb']a 'Ni [Y'XYg ?`]a Uk UbXY`g"'<]hnY'i bX'8ØffY'_ÒbbYb'Y]bYb'bY[Uh]j Yb'9]bZi gq Ui Z'X]Y'E i U`]hÀh'\UVYb'i bX'g]W\'bY[Uh]j 'Ui Z'XUg ; $YgWa UW_gdfcZ]^XYf^2 Y'Ui gk]f_Yb"9]b'Ni gUa a Yb\Ub[ž'Ui Z$ $XYb^{-}X]Y^{-}Gh]Zhi^{-}b[^{-}K^{-}UfYb^{+}Ygh^{-}]b^{-}X]YgYa^{-}:f\emptyset \wedge ^{U} \wedge f^{-}]a^{-}Ni^{-}[^{-}Y^{-}Y]b^{-}Yf$ HYghi cfghY``i $b['\]b[Yk]YgYb `\Uh'' 5i W `XYf `\Y]a]gWXY$ FUdgUbVUi 'k]fX'g]W\ XYb'< YfUi gZcfXYfi b[Yb'XYg'?`]a Uk UbXY`g ghY``Yb`a ØggYb"'l a gc`a Y\f`]gh'Ui g`G]W\h'XYf`l: CD'X]Y`Ni`Uggi b[gc[YbUbbhYf'BYiYf'; Ybca]gWXYf'HYWXb]_Yb'fB; HŁ'ZØf'X]Y DZUbnYbnØW\hi b['YfZcfXYf`]W\"'8]YgY'bYi Ufh][Yb'A Yh\cXYbž'k]Y 7F -GDF #7 Ugž'k YfXYb 'ni bY\a YbX 'bchk YbX][ž'i a 'DZ'UbnYb 'VYggYf Ub 'g]WX 'j YfÀbXYfbXY'l a k Y`hVYX]b[i b[Yb 'Ubni dUggYb 'i bX [`Y]WXnY]h]['X]Y ``UbXk]fhgWXUZh`]WXY 'DfcXi _h]j]hÀh'ni 'ghY][Yfb"'Gc _ÒbbYb'Bi hndZUbnYb'VY]qd]Y`qkY]qY'hc`YfUbhYf'[Y[Yb'8ØffYž <]hnY cXYf GW AX`]b[Y [Ya UW hk YfXYbžk Ug Ub[Yg]W hg XYg</pre> ?`]a Uk UbXY`g`j cb`VYgcbXYfYf`6YXYi hi b[`]gh"

=b 'XYf'Zc`[YbXYb'HUVY``Y'g]bX': U_hYb'ni f'FUdgV`ØhY'i bX'ni a FUdgUbVUi ']b '8 Yi hgW\`UbX'Ui Z[YZØ\fh

_`]a UZfYi bX`]W\YfY'?fUZhghcZZYp
pK]W\h][Y'6YXYi hi b['ZØfp6]cX]j Yfg]h\hz`]bgVYgcbXYfY'ZØf'6]YbYbp
p<YfUi gZcfXYfi b[Yb'XYg'FUdgUbVUi g']b'6Yni ['Ui Z'XYb
?`]a Uk UbXY`pBchk YbX][_Y]h'XYf'Ni `Uggi b['bYi Yf'[Ybca]gW\Yf
HYW\b]_Yb'ZØf'X]Y'DZUbnYbnØW\hi b[z'k]Y'7F \GDF#7Ugp

8]Y'FUdgV`ØhY']b'8Yi hgW\`UbX'a Uf_]Yfh'b]W\h'bi f'XYb
VY[]bbYbXYb': fØ\`]b[ž'gcbXYfb']gh'Ui W\'Y]b'Gma Vc`'ZØf'X]Y
J]Y`ZU`h'i bX'BUW\\U'h][_Y]h']b'XYf'@UbXk]fhgW\UZh"'8Yf'FUdgUbVUi\Uh'Y]bY'`Ub[Y'; YgW\]W\hY']b'8Yi hgW\`UbX'i bX'gd]Y`h'Y]bY
VYXYi hYbXY'Fc``Y']b'XYf'\Y]a]gW\Yb'@UbXk]fhgW\UZh"'BYVYb
gY]bYf'k]fhgW\UZh`]W\Yb'6YXYi hi b[']gh'XYf'FUdgUbVUi 'Ui W\
Ò_c`c[]gW\'kYfhj c``ž'XU'X]Y'V'Ø\YbXYb': Y`XYf'Y]b'k]W\h][Yf
@YVYbgfUi a'ZØf'6]YbYb'i bX'UbXYfY'\pgY_hYb'g]bX"'8UfØVYf
\]bUi g'X]Ybh'FUdg'U`g'Fc\ghcZZ'ZØf'_`]a UZfYi bX`]W\YfY'?fUZhghcZZY
i bX'_ObbhY']b'Ni _i bZh'j YfghÀf_h']b'XYf'9fbÀ\fi b['[Ybi hnh
k YfXYb"

8]Y`X]Yg'À\f][Y`FUdgV`ØhY`]gh`gca]h`b]W\h`bi f`Y]b
VYY]bXfi W_YbXYg`BUhi fgW\Ui gd]Y`ž`gcbXYfb`j YfXYi h`]W\h`Ui W\`X]Y
6YXYi hi b[`XYg`FUdgUbVUi g`ZØf`X]Y`XYi hgW\Y`@UbXk]fhgW\UZh`i bX
X]Y`Bchk YbX][_Y]h`bUW\\U`h][Yf`5bVUi a Yh\cXYb`]a `NY]hU`hYf`XYg
?`]a Uk UbXY`q"

E i Y ``Y . T : C D 'Y "J " '# c hg

6 Ygi WX Yb 'G]Y 'i bg 'Ui Z. 'a Y]b!VYf`]b "bYh