

## 

GYVUgh]Ub '?`Ui gž'Y\Ya U`][Yf'6UW\Y`cfž'nY][h'gY]b 'YfghYg ?i gg!: chc'a ]h'bYi Yf': fYi bX]b 'Ui Z' +bghU[fUa 'i bX'VYghÀh][h gY]bY'@]YVY"

8]Y'FYU`]hÀh'XYg'@YVYbg'bUW\'XYf': YfbgY\gYbXi b[' 8]Y
6UW\Y`cfg 'k]fX'cZh'j cb'XYb'Ni gW\Ui Yfb'[YbUi 'VYcVUW\hYhž
]bgVYgcbXYfY'k Ybb'Yg'i a 'X]Y'@]YVYg[YgW\]W\hYb'XYf
DfchU[cb]ghYb'[Y\h"'9]b'gW\ÒbYg'6Y]gd]Y`'XUZØf']gh'XYf'K Y['j cb
GYVUgh]Ub'?`Ui gž'XYf'bUW\'gY]bYf'HY]`bU\a Y'Ub'XYf'GYbXi b['bi b
gY]b'dYfgÒb`]W\Yg'; `ØW\_'[YZi bXYb'\Uh"

## 9]b'bYiYf'@YVYbgUVgWXb]hh'ZØf'GYVUgh]Ub ?`Uig

 $BUWXXYa GYVUgh]Ub?`Ui gž'' * ž']b`XYf`FH@G\ck`Ui ZXYf`Gi WXY bUWX`gY]bYf`< YfnXUa Y`k Ufž`YbXYhY`gY]bY`FY]gY`a ]h`@Uf]ggUž`ZØf X]Y`Yf`X]Y``YhnhY`FcgY`j Yf[ UV"`Hfchn`XYf`UbZ\ab[`]WXYb`< cZZbi b[ Yb _Ua `Yg`bi f`ni `Y]b][ Yb`8 UhYgž`X]Y``YXcWX`b]WX h`Ui gfY]WXYbX k UfYbž`i a `Y]bY`XUi Yf\UZhY`6Yn]Y\i b[ `Ui Zni VUi Yb"`GWXcb`A ]hhY \( \delta \bar{b} \bar{$ 

### <sup>2</sup> ZZYbh`]WX Y '6Y[Y]ghYfi b[ 'i bX 'Ya ch]cbU`Y A ca YbhY

9gʻ]ghʻbUW\j c``n]Y\VUfž'XUggʻX]Yʻ: Ubgʻj cbʻ 8]Yʻ6UW\Y`cfg bYi [ ]Yf][ ˈq]bXž'VYqcbXYfqʻ]bʻ5bVYhfUW\h'XYfʻVi bhYb ; YgWX]WX hYbž'X]Y 'g]WX ']b 'XYf'G\ck 'YbhZU`hYhYb"'GYVUgh]Ubž'XYggYb ni  $f@W_\U`hYbXY'5fh']\b'j cb'gY]bYa '?c``Y[Yb'8Ybb]g'; f]Ygž'' $ži bhYfgWXY]XYhž'\Uh'_@fn`]WX'Y]b'6]`X'Ui Z'<math>\pm$ 0ghU[fUa '[YhY]`hž'XUg'X]Y: Ubg']b'JYfn@W\_i b['j YfgYhnhY"'8 Ug': chc'nY][h'XUg'DUUf'VY]a?@ggYbž'Y]b[YZUb[Yb']b'Y]bYa 'GWXUhhYbV]`X'a]h'XYaYa ch]cbU`Yb'HYIh' a]Xb][\h'k U`\_ "'8]YgYg'6]`X'gdf]WXh'Z@f'g]WXi bX'`Àqqh'X]Y'Ni qWXUi Yf'Ub'XYf' $\pm$ 0h]a]hAh'XYf'VY]XYb'hY]`\UVYb"

# 8Yf'9]bZ`i gg'j cb'GcW]U`A YX]U'Ui Z dYfgÒb`]WXY'6Yn]Y\i b[Yb

± Y]bYf'K Y`hž']b'XYf'gcn]U`Y'A YX]Yb'Y]bY'k]W\h][Y'Fc``Y']a '@YVYbgd]Y`Ybž'k]fX'Yg']a a Yf'ØV`]W\Yfž'dYfgÒb`]W\Y'A Y]`YbghY]bY'ni dfÀgYbh]YfYb"'8]Yg'Yfa Ò[`]W\h'Yg'XYb': Ubgž'Ub'XYb 9bhk]W\_`i b[Yb']a '@YVYb']\fYf'@]YV`]b[gdYfgcbYb'hY]`ni \UVYb" 8Yf'5i ghUi gW\'j cb'6]`XYfb'i bX'; YgW\]W\hYb'k]Y'GYVUgh]Ubg ?i ggZchc'a]h'gY]bYf'bYi Yb': fYi bX]b'i bhYfghØhnh'b]W\h'bi f'X]Y 6]bXi b['nk]gW\Yb'XYb': Ubg'i bX']\fYb'=Xc`Ybž'gcbXYfb'j YfghÀf\_h Ui W\XUg'ÒZZYbh`]W\Y'±bhYfYggY'XUfUbž'k]Y'dfca]bYbhY'DYfgcbYb 6Yn]Y\i b[Yb'`YVYb'i bX'dZY[Yb"

#### 9]b 6`]W\_ Ui Z'ni \_Øb Zh][ Y DYfgd Y\_h]j Yb

8]Y '9bhgWX Y]Xi b[žY]bY '6Yn]Y\i b[ 'Ui Z'GcW]U``A YX]U`ni dfÀgYbh]YfYbž'\_Ubb 'gck c\``7\UbW'b 'U`g'Ui WX '<YfUi gZcfXYfi b[ Yb a ]h'g]WX 'Vf]b[ Yb": Øf'GYVUgh]Ub'? `Ui g'\_ÒbbhY 'X]Yg'VYXYi hYbž XUgg'Yf'b]WX h'bi f'gY]bY 'bYi Y'@]YVY'ZY]Yfhž'gcbXYfb'Ui WX 'XYb 8 fi W\_'XYf'^2 ZZYbh`]WX\_Y]h'YfhfU[ Yb'a i gg"'8 YbbcWX'\_ÒbbhY'Yg'Ui WX Y]bY'A Ò[`]WX\_Y]h'gY]bž'Y]bY'i bhYfghØhnYbXY'7ca a i b]hm'i a 'g]WX ni 'gWX UfYbž'X]Y']\a 'Ui Z'gY]bYa 'K Y[ 'ni f'GY]hY'ghY\h"

8]Y'9bhk]W\_`i b['j cb'GYVUgh]Ub'?`Ui g'bUW\' 8]Y'6UW\Y`cfg 'nY][h Y]ba U``a Y\fž'k]Y'k]W\h]['nk]gW\Yba YbgW\`]W\Y'6Yn]Y\i b[Yb g]bX'i bX'k Y`W\Y'Fc``Y'ÒZZYbh`]W\Y'K U\fbY\a i b['XUVY]'gd]Y`h"'9g V`Y]Vh'gdUbbYbX'ni 'VYcVUW\hYbž'k]Y'g]W\'gY]bY'6Yn]Y\i b[Ybhk]W\_Y`b'k]fX'i bX'k]Y'gY]b'K Y[']b'XYf'² ZZYbh`]W\\_Y]h k Y]hYf[Y\h"

### 8 YhU]`g

6 Ygi WX Yb 'G]Y 'i bg 'Ui Z. 'b!U[ "XY