

### ?f\_U'BUh]cbU`dUf\_.'?fcUh]Ybg j YfVcf[ YbYg'BUhi fk i bXYf

HUI WXY Y]b ]b X]Y Y]bn][ Ufh][ Y : `cfU i bX : UI bU XYg ?f\_U B Uh]cbU `d Uf\_g \* 9bhXY W\_Y `bUWX \ U `h][ Yb 'HcI f]ga i g i bX B Uhi fgWX i hna U» bU\a Yb ]b 'XYf F Y[ ]cb " < ]Yf g]b X X]Y VYghYb K Y[ Yž i a 'X]YgYg B Uhi fk i bXYf `ni 'Yf `YVYb " . ?f\_UB Uh]cbU `d Uf\_ '. B Uhi fgWX i hn '. B UWX \ U `h][ \_Y]h



, Ja U[ YSh]h`Y

8 Yf??f\_U!BUh]cbU`dUf\_']b'?fcUh]Yb']gh'VY\_Ubbh'ZØf'gY]bY
UhYa VYfUi VYbXY'bUhØf`]WXY'GWXÒb\Y]h'i bX'j ]Y`ZÀ`h][ Y

2 \_cgmghYa Y"'=b'X]YgYa '5fh]\_Y`'k YfXYb'k ]f'X]Y'Y]bn][ Ufh][ Y': `cfU
i bX': Ui bU'XYg'DUf\_g'Yf\_i bXYbž'gck ]Y'X]Y'A U» bU\a Yb'ZØf
bUWX\U`h][ Yb'Hci f]ga i g'i bX'BUhi fgWXi hn']b'XYf'FY[ ]cb
i bhYfgi WXYb"'Ni XYa 'V]YhYb'k ]f'9a dZY\`i b[ Yb'ZØf'6Ygi WXYfž'i a
XUg'BUhi fk i bXYf'XYg'?f\_U!BUh]cbU`dUf\_g'VYgha Ò[ `]WX'ni
Yf`YVYb"'HUi WXYb'k ]f'Y]b']b'X]Y'ZUgn]b]YfYbXY'K Y`h'X]YgYg
Y]bn][ Ufh][ Yb'GWXi hn[ YV]Yhq"

## 8]Y'Y]bn][Ufh][Y': `cfU'i bX': Ui bU'XYg'?f\_U BUh]cbU`dUf\_g

8 Yf??f\_U'B Uh]cbU`dUf\_']b'?fcUh]Yb']gh'VY\_Ubbh'ZØf'gY]bY VYY]bXfi W\_YbXY'J]Y`ZU`h'Ub': `cfU'i bX': Ui bU"'<]Yf'Z]bXYb'g]W\ j YfgW\]YXYbY'@YVYbgfÀi a Yž'XUfi bhYf'K À`XYfž': `ØggYž'GYYb'i bX K UggYfZÀ``Yž'X]Y'Y]bY'J]Y`nU\``j cb'DZUbnYb!'i bX'H]YfUfhYb VY\YfVYf[Yb"'Ni 'XYb'Y]b\Y]a ]gW\Yb'DZUbnYb'nÀ\`Yb'gY`hYbY CfW\]XYYbž'C`]j YbVÀi a Y'i bX'a YX]hYffUbY'?fÀi hYf"

⇒ "B Uh]c b U`d Uf\_ "YVY b 'Ui W\"j ]Y `Y 'H]Y f Uf hY b ž'X Ufi b hY f 6 f Ui b V À f Y b ž' K Ò `ZY ž': ]g W\ c hhY f i b X 'Y] b Y 'J ]Y `n U\ `'j c b 'J c [ Y` Uf hY b " 8 Y f 'D Uf\_ ']g h' Y] b 'k ]W\ h][ Y f @Y V Y b g f Ui a 'ZØ f 'V Y X f c \ hY '5 f hY b 'k ]Y XY b 'A Ufa c f\_ f Y V g 'i b X 'X Y b 'D] f c `" 8 U f Ø V Y f '\ ]b Ui g 'V Y \ Y] a UhY h' X Y f ? f\_U 'B Uh] c b U`d Uf\_ 'Y] b Y 'J ]Y `n U\ `'j c b '5 a d \ ]V]Y b 'i b X 'F Y d h]`]Y b ž X U f i b hY f 'X]Y '9 i f c d À ]g W\ Y 'G i a d Zg W\ ]`X\_f Ò hY 'i b X 'X]Y '9 i f c d À ]g W\ Y 9] X Y W\ g Y "

9]bY'XYf'< Ui dhUhhfU\_h]cbYb'XYg'DUf\_g'g]bX'X]Y'g]YVYb

K UggYfZÀ``Y'XYg': `i ggYg'?f\_U"'8]YgY'gdY\_hU\_i `ÀfYb'K UggYfZÀ``Y
g]bX'j cb'Ødd][Yf'JY[YhUh]cb'i a [YVYb'i bX'V]YhYb'Y]bYb

UhYa VYfUi VYbXYb'5bV`]W\_"'6Ygi WXYf'\_ÒbbYb'Ybh`Ub['XYf

K UbXYfk Y[Y'gdUn]YfYb'[Y\Yb'i bX'X]Y'Y]bn][Ufh][Y'@UbXgWXUZh
[Yb]Y»Yb"'8Yf'DUf\_'V]YhYh'Ui WX'6cchghci fYb'Ui Z'XYa': `i gg'Ubž
X]Y'Yg'6Ygi WXYfb'Yfa Ò[`]WXYbž'X]Y'K UggYfZÀ``Y'Ui g'XYf'BÀ\Y'ni
Yf`YVYb"

8 Yf??f\_U'B Uh]c b U`d Uf\_'gY hnh'g]W\ 'U\_h]j 'ZØf'XY b 'GW\i hn'gY]b Yf Y]b n][ Ufh][ Yb': `cfU'i b X': Ui b U'Y]b "'9g'k i fXY b 'A U» b U\a Yb Yf[ f]ZZY b ž'i a 'X]Y '@Y VY b gfÀi a Y 'XY f'H]Y fY 'ni 'Yf\U`hY b 'i b X ]b j Ug]j Y '5 fhY b 'ni 'VY\_Àa d ZY b "'8 U f Ø VY f'\]b Ui g 'Y b [ U[ ]Y fh'g]W\ 'XY f D Uf\_'ZØf'X]Y 'I a k Y`hV]`Xi b [ 'i b X'gY b g]V]`]g]Y fh'6 Y gi W\Y f'ZØf'XY b GW\i hn'XY f'B U hi f"

6Ygi W\Yf`XYg`?f\_U`BUh]cbU`dUf\_g`\UVYb`X]Y`A Ò[`]W\\_Y]hž`Ub
[YZØ\fhYb`Hci fYb`hY]`ni bY\a Ybži a 'a Y\f`ØVYf`X]Y`Y]b\Y]a ]gW\Y
: `cfU'i bX`: Ui bU'ni 'YfZU\fYb"'9g`[]Vh'Ui W\' ≠ Zcfa Uh]cbgnYbhfYb
]a 'DUf\_ž'X]Y`ØVYf`X]Y`j YfgW\]YXYbYb`H]Yf!`i bX`DZ`UbnYbUfhYb

]bZcfa ]YfYb"'8 i fW\ XYb'j YfUbhk cfhi b[gVYk i gghYb'Hci f]ga i g \_ObbYb'6Ygi W\Yf'XUni 'VY]hfU[Ybž'X]Y'Y]bn][Ufh][Y'BUhi f'XYg ?f\_U'BUh]cbU'dUf\_g'ni 'VYk U\fYb"

#bg[ YgUa h'V]YhYh'XYf'?f\_U'B Uh]cbU`dUf\_'Y]b'ZUgn]b]YfYbXYg
2 \_cgmghYa 'a ]h'Y]bYf'J]Y`nU\`'j cb'DZ'UbnYb!'i bX'H]YfUfhYb"'8Yf
DUf\_']gh'Y]b'DUfUX]Yg'ZØf'B Uhi f`]YV\UVYf'i bX'V]YhYh'X]Y
A Ò[ `]WX\_Y]hž'X]Y'GWX Òb\Y]h'i bX'J]Y`ZU`h'XYf'\_fcUh]gWXYb'B Uhi f'ni
Yf`YVYb"

### BUWX\U`h][YfHcif]gaigibX BUhifgWXihnaU»bU\aYb]bXYfFY[]cb

8 Yf'? f\_U'B Uh]cbU`dUf\_']gh'b]W\ h'bi f'Y]b'VY`]YVhYg'N]Y`'ZØf
Hci f]ghYbž'gcbXYfb'Ui W\ 'Y]b'B Uhi fgW\ i hn[YV]Yhž'XUg'gcf[Z\A`h][
[YgW\ Øhnh'i bX'Yf\U`hYb'k YfXYb'a i gg"'5i g'X]YgYa '; fi bX'k YfXYb
]b'XYf'FY[]cb'j YfgW\]YXYbY'A U» bU\a Yb'Yf[f]ZZYbž'i a
bUW\\U`h][Yb'Hci f]ga i g'ni 'Z\OfXYfb'i bX'X]Y'Y]bn][Ufh][Y': `cfU
i bX': Ui bU'XYg'DUf\_g'ni 'gW\ ØhnYb"

9]b'k]Wkh][Yf'GWkkYfdib\_h'XYg'BUhifgWkihnYg']b'XYf'FY[]cb']gh
X]Y'FYXin]Yfib['XYg'Ò\_c`c[]gWkYb':i » UVXfi W\_g'XYf'6Ygi WkYf"
8ifWk'X]Y': ÒfXYfib['iakY`hZfYibX`]WkYf'JYf\_Y\fga]hhY`k]Y
: U\ffÀXYf'ibX'ÒZZYbh`]WkY'JYf\_Y\fga]hhY`k]fX'X]Y
IakY`hVY`Ughib['a]b]a]Yfh"'NiXYa'kYfXYb']b'NigUaaYbUfVY]h
a]h'`c\_U`Yb'6Y\ÒfXYb'ghfYb[Y'5VZU``aUbU[YaYbh!Dfc[fUaaY
XifWk[YZØ\fhž'ia'g]WkYfnighY``Ybž'XUgg'XYf'BUh]cbU`dUf\_'gUiVYfibX'ibVYfØ\fh'V`Y]Vh"

9]b'k Y]hYfYf'k ]W\h][Yf'5gdY\_h'XYg'BUhi fgW\i hnYg']b'XYf'FY[]cb ]gh'X]Y'GYbg]V]`]g]Yfi b['XYf'6Ygi W\Yf'ZØf'l a k Y`hZfU[Yb"'8i fW\ ± Zcfa Uh]cbgnYbhfYbž'6]`Xi b[g\_Ua dU[bYb'i bX'[YZØ\fhY'Hci fYb YfbYb'6Ygi W\Yf'ØVYf'X]Y'6YXYi hi b['XYg'BUhi fgW\i hnYg'i bX'k]Y g]Y'XUni 'VY]hfU[Yb'\_ÒbbYbž'X]Y'BUhi f'ni 'gW\ØhnYb"'8]Yg'hfÀ[h XUni 'VY]ž'Y]b'6Yk i gghgY]b'ZØf'X]Y'l a k Y`h'ni 'gW\UZZYb'i bX'X]Y 6Ygi W\Yf'ni 'j YfUbhk cfhi b[gVYk i gghYb'Hci f]ghYb'ni 'a UW\Yb"

8]Y`Ni gUa a YbUfVY]h'a ]h``c\_U`Yb`; Ya Y]bXYb`i bX

\[
\delta\hYfYggYb[fi ddYb']gh'Yb\hgW\Y]XYbX'\Z\tilde{T}\t

# 9a dZY\`i b[Yb`ZØf`6Ygi W\Yf.`6YghY`K Y[Yžia 'XUg`BUhi fk i bXYf`ni 'Yf`YVYb

 $8 \ Yf??f\_UBUh]cbU`dUf\_`V]YhYh'gY]bYb`6Ygi WXYfb`Y]bY`J]Y`nU\``j cb A O[`]WX\_Y]hYbž'i a `XUg`UhYa VYfUi VYbXY`BUhi fk i bXYf`ni Yf`YVYb"'<]Yf`g]bX`Y]b][Y`9a dZY\`i b[Ybž'i a `XUg`6YghY`Ui g`\fYa 6Ygi WX`ni `a UWXYb.$ 

%" 9f\_i bXYb G]Y X]Y K UggYfZÀ``Y. 8Yf' < Ui dhUhhfU\_h]cb XYg
DUf\_g g]bX X]Y VYY]bXfi W\_YbXYb K UggYfZÀ``YžX]Y Y]b
k U\fYg B Uhi fgW Ui gd]Y `V]YhYb "BY\a Yb G]Y g]W NY]hž
i a 'Ybh`Ub[ XYf K UbXYfk Y[ Y ni 'gdUn]YfYb i bX X]Y
j YfgW ]YXYbYb 5i gg]W hgdi b\_hY ni '[ Yb]Y » Yb "J Yf[ YggYb
G]Y 'b]W h' ≜ fY '? Ua YfUži a 'X]Y 'gdY\_hU\_i `ÀfYb '5i gg]W hYb
ZYghni \U`hYb"

- &" GWk ]a a Yb ]a : `i gg. 'a '? f\_U'B Uh]cbU`dUf\_'\UVYb
  6Ygi WkYf'X]Y'A Ò[ `]Wk\_Y]hž']a 'YfZf]gWkYbXYb': `i gg'ni
  gWk ]a a Yb "DUW\_Yb'G]Y'U`gc' \ fY'6UXYgUWkYb'Y]b'i bX
  bY\a Yb'G]Y'Y]b'YfZf]gWkYbXYg'6UX']b'XYb'\_`UfYb
  ; Yk ÀggYfb'XYg'DUf\_g"'6YUWkhYb'G]Y'YXcWk'X]Y
  Ui g[Yk]YgYbYb'GWk ]a a VYfY]WkY'i bX'Zc`[Yb'G]Y'XYb
  G]WkYf\Y]hgf]Wkh`]b]Yb'XYg'DUf\_g"
- ' " 6cchgZU\fhYb. '9]bY 'VY`]YVhY 'A O([`]WX\_Y]hž XYb
  B Uh]cbU`dUf\_ 'ni 'Yf\_i bXYbž']gh'Y]bY '6cchgZU\fhYbh`Ub[
   XYg': `i ggYg" I bhYfbY\a Yb 'G]Y 'Y]bY '[YZØ\fhY 'Hci f'cXYf
  a ]YhYb 'G]Y 'Y]b 'Y][YbYg '6cchž'i a 'X]Y 'j YfghY W\_hYb '9W\_Yb
   XYg'DUf\_g'ni 'YbhXYW\_Yb'i bX 'X]Y 'i bVYfØ\fhY 'B Uhi f'Ui g
   Y]bYf'UbXYfYb 'DYfgdY\_h]j Y'ni 'VYhfUW\hYb"
- ("6Ygi WX 'XYf'\]ghcf]gWXYb'GY\Ybgk ØfX][\_Y]hYb.'BYVYb'XYf UhYa VYfUi VYbXYb'BUhi f'V]YhYh'XYf'?f\_U'BUh]cbU`dUf\_ Ui WX 'Y]b][Y'\]ghcf]gWXY'GY\Ybgk ØfX][\_Y]hYbž'XUfi bhYf XUg'?`cghYf'?f\_U"'BY\a Yb'G]Y'g]WX'NY]hž'i a 'X]YgY \_i`hi fY``Yb'\$k Y`Yb'ni 'Yf\_i bXYb'i bX'a Y\f'ØVYf'X]Y ; YgWX]WX hY'i bX'?i`hi f'XYf'FY[]cb'ni 'YfZU\fYb"
- ) " D]W\_b]W\_`]a : fY]Yb.; Yb]Y» Yb`G]Y`X]Y`Fi\Y`i bX`GW\Ob\Y]h XYf`BUhi fž`]bXYa `G]Y`Y]b`D]W\_b]W\_`]a : fY]Yb`j YfUbghU`hYb" DUW\_Yb`G]Y`\\ fY`@]YV`]b[ ggbUW\_g`i bX`; Yhf\Ab\_Y`Y]b`i bX gi W\Yb`G]Y`g]W\`Y]b`]Xm``]gW\Yg`D`\AhnW\Yb`Ybh`Ub[ `XYg : `i ggYg`cXYf`XYf`K UbXYfk Y[ Yž`i a `X]Y`5i gg]W\h`ni [ Yb]Y» Yb`i bX`g]W\`ni `YbhgdUbbYb"
- \*" FYgdY\_h]YfYb'G]Y'X]Y'BUhi f.'5`g'j YfUbhk cfhi b[gVYk i gghY 6Ygi W\Yf']gh'Yg'k ]W\h][ž'X]Y'BUhi f'i bX'I a k Y`h'XYg BUh]cbU`dUf\_g'ni 'fYgdY\_h]YfYb"'BY\a Yb'G]Y'\to fYb'A Ø`` a ]h'i bX'j Yfa Y]XYb'G]Y'Ygž'DZ'UbnYb'cXYf'H]YfY'ni 'ghÒfYb" < U`hYb'G]Y'g]W\'Ub'X]Y'Ui g[Yk]YgYbYb'K Y[Y'i bX'Zc`[Yb G]Y'XYb'F]W\h']b]Yb'XYg'DUf\_gž'i a 'X]Y'BUhi f'ZØf ni \_ØbZh][Y'; YbYfUh]cbYb'ni 'Yf\U`hYb"

6Ygi WXYb'G]Y'XYb'?f\_U'BUh]cbU`dUf\_'i bX'Yf`YVYb'G]Y'X]Y
GWXÒb\Y]h'i bX'J]Y`ZU`h'X]YgYg'Y]bn][ Ufh][ Yb'BUhi fk i bXYfg'Ui Z
Y]bY'i bj Yf[ Ygg`]WXY'K Y]gY": c`[ Yb'G]Y'i bgYfYb'9a dZY\`i b[ Ybž
i a 'XUg'6YghY'Ui g'≜fYa '6Ygi WX'\YfUi gni \c`Yb'i bX'X]Y
VYY]bXfi W\_YbXY'BUhi f'i bX'?i `hi f'XYf'FY[ ]cb'ni 'YbhXYW\_Yb"

#### GWX i ggZc [Yfi b[.

8 YhU1`c

6Ygi WXYb G]Y ii bg Ui Z. Y]bY!fY]gY "XY