< Y]_c ' < U\ bYk U`X. 'A Y]» Yb '6fYU_XUbWf
[`Àb nh`]b 'B 8 F!F UhYg\ck

A Y]» Ybg'6fYU_XUbWf' < Y]_c ' < U\ bYk U`X`k]fX`Ua 'GcbbhU[
]b`XYf`B 8 F!F UhYg\ck / ei ch/? Ui a `ni '[ `Ui VYb` / ei ch/ j cb
? U]`DZUi a Y`VYZFU[h"

5a `gdÀhYb`GcbbhU[UVYbX`k ]fX`Yg`ZØf`XYb`A Y]» bYf'6fYU_XUbWf
< Y]_c ' < U\ bYk U`X`Y]bY`gdUbbYbXY`DfYa]YfY`ja : YfbgY\Yb
[YVYb" ` ð `XYf`VY`]YVhYb`B 8 F!F UhYg\ck ' ? Ui a `ni '[`Ui VYb` `k]fX
XYf` ) , ! Æ \f][ Y` [Y[Yb`X]Y`I \f`UbhfYhYb`i bX`g]W`]bhYfYggUbhYb
: fU[Yb`ghY`Yb`a ØggYbž`X]Y` \a `j cb`Y]bYa `F UhY!HYUa `[ YghY`h
k YfXYb" `8]Y`GYbXi b[`Ài Zhi a `&&. \$) `I \f`i bX`j Yfgdf]W`hž`Y]b
Ua ØgUbhYg`GdY\_hU\_Y`ni `k YfXYb"

8]Y`5i ZnY]W`bi b[`ZUbX`VYfY]hg`ja `š b`]b` < Ua Vi f[`ghUhhž`k c
< U\ bmi]b`Y]bYf`cW_YfYb`5ha cgd\ÀfY`a]h`A cXYfUhc`f`? U]`DZUi a Y
i bX`XYa `F UhYfhYUa ž`VYghY\YbX`Ui g`dfca ]bYb`hYb` ; Yg]W`hYfb`k]Y
6Yfb\UfX` < cÇW\_Yf`i bX`GhYd\Ub]Y`Ghi a d\ž`]bhYfU[]YfhY" < Y]_c
Yf]bbYfh`g]W`Ub`X]Y`5i ZnY]W`bi b[ . ` @cW_YfYf`Hmd`i bX
Gdcfhga Ubb" `HchU`Ub[YbY\ a " `Gc`W`Y`dcg]hj] Yb`9f]bbYfi b[Yb
_ØbbhYb`XUni `VY]hfU[Ybž`XUgg`X]Y` : YfbgY\ ni gW`Ui Yf`Y]bYb
UVk YW`g`i b[gfY]W`Yb`5VYbX`Yf`YVYb"

8 Yf`Gd]Y`UV`Ui Z`XYf`G\ck

8 Ug`?cbnYdh`XYf`G\ck `]gh`VYgcbXYfg`i bhYf\U`hgUa `i bX`VUg]Yfh
Ui ZXYa `VY`]YVhYb`Gd]Y` ` K Yf`#K Ug`V]b`]W`3 " `9]b`j]Yf_ØdZ[]Yg
F UhYfhYUa ` \Uh` () `GY\_i bXYb`NY]hž`i a `a]h\`Z`j cb`[ ]n]Y`hYb
: fU[Yb`X]Y`9][Yb\Y]hYb`i bX`6YgcbXYf\Y]hYb`XYf`Ghi X]c[ÀghY`ni
YffUhYb" `8]Y` < YfUi gZc`fXYfi b[ `VYghY`h`XUf]bž`\YfUi gni Z]bXYbž
k Ug`[ YbUi ` < U\ bmgc`VYgcbXYfg`a UW`hž`i bX`XUVY`] \UVYb`X]Y

F UHYf'bi f'Y]bYb'5b\U'hgdi b_hžXYb'g]Y'ni '6Y[]bb'j cb'?U]DZUi a Y
dfÅgYbh]Yfh'VY_ca a Yb''Gc`hY'Yg']\bYb'b]W'h[Y']b[Ybž'X]Y
f]W'h[Y'5bhk cfh'ni 'Z]bXYbž'k]fX' < U\bm'ia]h'Y]bYa '\ØVgWYb
6YhfU['VY'c\bh' '%"\$\$\$'9i fc' 'k Ug'ni 'ni gÅhn']WYa
GdUbbi b[gUi ZVUi ']b'XYf'G\ck 'ZØ\fh"

, VYf'XUg'9f[YVb]g'XYf'G\ck '\Ø'h'g]W' < U\bm']b'GWk Y][Ybž'k Ug
bUhØf]W'X]Y'BYi []YfXY'XYf'Ni gWUi Yf'Ub\Y]nYb'XØfZhY''K Yf'XYb
6fYU_XUbWf'VYggYf'_Ybbhž'k Y]» ž'XUgg'Yf'ZØf', VYffUgW'i b[Yb' [i h
]gh'GY]bYb'bÅW'ghYb'5i Zhf]hh'\UhYf'VYfY]hg'ZYgh]a '6`]W_.'5a '("
C_hcVYf'k]fX'Yf']b'XYf'A 8F!GYbXi b['F]j YfVcUh'ni 'gY\Yb'gY]bž
k Ug'ZØf'gY]bY': Ub[Ya Y]bXY'Y]b'k Y]hYfYf'; fi bX'ni f'JcfZfYi XY'gh"
GY]b'5i Zhf]hh']b'XYf'B 8F!G\ck 'a U['YXcW'VYgcbXYfg
\YfUi gfU[YbX'gY]bž'XU'Yf'ZØf' < U\bm'Y]b'NY]WYb'ZØf'gY]bY
VYY]bXfi W_YbXY'?Uff]YfY'U'g'?Øbgh'Yf'XUfghY''h"

GY]b'(\$'6Ø\bYb'↑V]`Ài a ž'XUg'Yf'Yfgh] cf'_i fnYa 'ZY]YfhYž'[]Vh
XYbbcW'ni 'XYb_Yb.'ϕ'Y]bYa '5'hYfž']b'XYa 'a UbWYf'VYfY]hg'Ubg
5i Z\ØfYb'XYb_hž'nY][h' < U\bm'ia]h'gY]bYf'HJ!DfÅgYbn'i bX'gY]bYf
@Y]XYbgW'UZh'ZØf'XUg'HUb'nYbž'XUgg'XUg'@YVYb'Ui W'']a '5'hYf'j c''Yf
9bYf[]Y'i bX'bYi Yb' < YfUi gZcfXYfi b[Yb'gY]b'_Ubb''8Ug
9b[U[Ya Ybh]a ': YfbgY\Yb'Vf]b[h'b]W'h'bi f'5bYf_Ybbi b[ž
gcbXYfb'ghY''h'Ui W'Y]bY'A Ø['W_Y]h'XUfž'Øb[YfY'; YbYfUh]cbYb
ZØf'X]Y'6Ø\bYb_i bgh'ni 'VY[Y]ghYfb"

9]b'6`]W_ 'Ui Z'X]Y'Ni _i bZh

A]h'gY]bYb'5i Zhf]hhYb']b'VY']YVhYb'HJ!': cfa UHYb'ghÅf_h' < U\bm
gY]bY'Dcg]h]cb'U'g'j]Y'j YfgdfYWYbXYf'9bhYfhU]bYf''8]Y'G\ck
'?Ui a 'ni '['Ui VYb'° ']'gh'b]W'h'bi f'Y]bY'D'UhhZcfa 'ZØf
i b[Yk Ø\b']W'Y'HU'YbhYž'gcbXYfb'Ui W'Y]bY'A Ø['W_Y]hž'i a ']'b
XYb'A YX]Yb'g]W'hVUfYf'ni 'k YfXYb'' < U\bm'Yf\cZ'h'g]W'ž'Xi fW
X]YgY'5i Zhf]hhY'b]W'h'bi f'gY]b'Y][YbYg'DcfhZc']c'ni 'Yfk Y]hYfbž
gcbXYfb'Ui W'XUg'6fYU_XUbW'!DchYbn]U'ni 'dfÅgYbh]YfYbž
k Y'WYg]b'XYf'\Yi h][Yb'NY]h]a a Yf'dcdi 'ÅfYf'k]fX"

: Øf'X]Y': YfbgY\ ni gWUi Yf']gh'Yg'Y]b'i bhYf\U'hgUa Yf'5VYbXž'XYf
\bYb'b]W'h'bi f'gdUbbYbXY'i bhYf\U'hi b[ž'gcbXYfb'Ui W'X]Y

A Ò[`]W\_X]h`V]YhYh`A YbgW\_XYb`a]h`Ui » Yf[ Yk Ò`b`]W_XYb
; YgW_X]W_XhYb`i bX`HU`YbhYb`b`À\Yf`_YbbYbni `YfbYb`"8Yf
G\ck W_XUfU_hYf`i bX`X]Y`b`hYfU_h]j]h`Àh`j YfgdfYW_XYb`Y]bY
i bhYf\U`hgUa Y`NY]h`ZØf`X]Y [UbnY` : Ua ]`Y`"6`Y]Vh`U`gc
UVni k UfhYb`ž`k]Y`<Y]\_c` <U\bm` <U\byk U`X`VY]`XYb`Ni gW_XUi Yfb
Ub_ca a hi bX`k Y`W_XY`FYU\_h]cbYb`gY]b`5i Zhf]h`h`Yfj cffi ZYb`k]fX"

8]Y`G\ck `V]YhYh`b]W\_Xh`bi f`Y]bYb`6`]W`_Ui Z<U\bmž`gcbXYfb`Ui W_X
Ui ZX]Y`\_fYUh]j Y`J]Y`ZU`h`X]Y`Yg`ja`6YfY]W_X`XYf`i bhYf\U`hi b[ ` []Vh
i bX`k ]Y`X]YgY`HU`YbhY`Xi fW\_X`a cXYfbY`A YX]Yb`XUg`Di V`_i a
YffY]W_XY`"8]Yg`_ØbbhY`XYf`6Y[]bb`j ]Y`Yf`k Y]hYfYf`5i Zhf]h`Y`i bX
; Y`Y[ Yb`Y]hYb`ZØf`<U\bmi bX`gY]bY`?c`Y[ Yb`gY]b`ž`X]Y`]\b`]b
gY]bYf`?Uff]YfY`Yf`YVYb`k YfXYb"

8]Y`6YXYi hi b[ `j`cb`6fYU_XUbW`ZØf`X]Y
?i`hi`f`

6fYU_XUbW`ž`Ui W_X`U`g`6!6cm]b[ `VY`\_Ubbh`ž`]gh`a Y`f`U`g`bi f`Y]b
HUbng]`/Yg`]gh`Y]b`k YgYbh`]W\_XYf`6YghUbXhY]`XYf`<]d]`<cd]`?i`hi`fž
X]Y`]b`XYb`%- +\$Yf`Y\`fYb`]b`XYb`i G5`YbhghUbX`"i fgdFØb[`]W\_X`U`g
5i gXfi W`\_XYf`i fVUbYb`š [ YbX`i`hi`f[YXUW_Xh`ž`U`h`6fYU_XUbW`]a
@Ui ZY`XYf`Y\`fY`Y]bY`Ybcfa Y`9bhk]W`\_i b[ `Xi fW_X`Ui ZYb`i bX`]gh
a]h`Yfk Y]Y`k Y`hk Y]h`UbYf`\_Ubbh`"9g`j YfV]bXYh`HUb`nž`A`i`g]_ž
; fUZZ]h`i bX`Y]bY`YVYbX][ Y` ; Ya Y]bgW_XUZh"

8]Y`9]bVYn]Y`i b[`j`cb`6fYU\_XUbW`]b`X]Y`C`ma`d]gW_XYb`Gd]Y`Y
&\$&(`]b`DUf]g`]gh`Y]b`6Yk Y]g`ZØf`X]Y`ghY][YbXY`5bYf`_Ybbi b[
X]YgYf`?i bghZcfa`"8]Y`C`ma`d]UXY`k]fX`Y]bY`]bhYfbUh]cbU`Y
D`Uh`hZcfa`V]YhYb`ž`i a`HU`YbhY`Ui`g`j YfgW_X]YXYbYb`@AbXYfb`ni
dfAgYbh]YfYb`i bX`X]Y`\_i`hi`fY`Y`6YXYi hi b[ `XYg`6fYU_XUbW
k Y]hYf`ni`ZYgh][Yb`"8Yf`K`Yh`VYk`YfV`ZcfXYfh`b]W\_Xh`bi`f`h`W_Xb]gW_XY
: `À][`_Y]hYb`ž`gcbXYfb`Ui`W_X`?fYUh]j ]h`Àh`i bX`dYfgØb`]W\_XYb`Gh]`ž`k Ug
XYb`HUb`n`Y]bn][ Ufh][ `a`UW_Xh"

< Y]_c`fk`U\bm`<`U\byk`U`X.`9]b`@YVYb`ZØf
XYb`HUb`n`

<Y]_c`<U\bYk U`X`]gh`Y]b`VYa Yf\_Ybgk YfhYf`J YfhfYhYf`XYf
6fYU_XUbWf!7ca a i b]hm]b`8Yi hgW`UbX"G]b`(\$!`A`f][Yg
6Ø\bYb`↑V]`Ai a `nYi [ hj cb`gY]bYa `9b[ U[ Ya Ybhi bX`gY]bYf
@Y]XYbgW`UZh`ZØf`XYb`HUb" "<U\bmi`Uh`]a `@Ui Z`gY]bYf`?Uff]YfY
b]W`h`bi f`j ]Y`Y`c`_U`Y`K YhVYk YfVY`[ Yk cbbYb`ž`gcbXYfb`Ui W`Ub
bUh]cbU`Yb`i bX`]bhYfbUh]cbU`Yb`A Y]ghYfgW`UZhYb`hY]`[Ybca a Yb"
GY]bY`9fZc`[Y`i bX`X]Y`@Y]XYbgW`UZh`ž`X]Y`Yf`ZØf`XYb`6fYU_XUbW
nY][hž`]bgd]f]YfYb`j]Y`Y`↑ b[Y`HÄbnYf`i bX`hfU[ Yb`ni f`: ÖfXYfi b[
XYg`HUbnyg`]b`8Yi hgW`UbX`VY]"

8UfØVYf`]\]bUi g`\Uh`Yf`Xi fW`gY]bY`5i Zhf]hhY`]a `: YfbgY`Yb`ž`k ]Y`]b
XYf`B8F!G\ck` `?Ui a `ni `[ `Ui VYb`° ž`XUni `VY][YhfU[Ybž
6fYU_XUbW`Y]bYf`VfY]hYfYb`² ZZYbh`]W`\_Y]h`VY`\_Ubbh`ni `a UW`Yb"
Gc`W`Y`A YX]YbdfÄgYbn`]gh`YbhgW`Y]XYbXž`i a `XUg`6Yk`i gghgY]b`ZØf
XYb`6fYU\_XUbW`ni `gh`Äf`\_Yb`i bX`XUa`]h`ni `Y`ZYbž`X]Y`?i bghZcfa
k Y]hYf`ni `YhUV`]YfYb"

5_hi Y`Y`9b`hk ]W`_`i b[ Yb`]b`XYf`6fYU_XUbW`! GnYbY

⇒ XYb`Y`hnhYb`]U`fYb`U`h`g]W`X]Y`XYi hgW`Y`6fYU\_XUbW`!GnYbY
fUgUbh`Yb`hk]W`\_Y`hž`a`]h`Y]bYf`Ni bU`a`Y`j`cb`K`YhVYk`YfVYb`i`bX
J`YfUbghU`hi`b[`Ybž`X]Y`hU`Ybh]YfhY`HÄbnYf`ni`gUa`a`YbVf]b[`Yb"
Cf[`Ub]gUh]cbYb`i`bX`;`Ya`Y]bgW`UZhYb`]b`Gh`Ä`X`h`Y`b`k`]Y`6Yf`]bž
<Ua`Vi`f[`i`bX`A`ØbW`Yb`V]YhYb`fY[`Y`a`Ä»][`K`cf`g`cdgž`HfU]b]b[`g
i`bX`6Uhh`Yg`Ubž`X]Y`gck`c`\`ZØf`5bZÄb[`Yf`U`g`Ui`W`ZØf
:`cfh[`YgW`f]hYbY`c`ZZYb`g]bX"

9]b`6Y]gd]Y`]gh`XYf`Ä`f`]W`ghUhhZ]bXYbXY`6Uhh`Y`c`Z`h`Y`M`Uf`ž
XYf`]bhYfbUh]cbU`Y`HÄbnYf`Ubn]Y`h`i`bX`U`g`Y]bYg`XYf`[`fÖ»`hYb`i`bX
fYgdY`\_h]YfhYghYb`9]Ybhg`]a`6fYU_XUbW`[`]h`Gc`W`Y
J`YfUbghU`hi`b[`Yb`ZØfXYfb`b]W`h`bi`f`XYb`K`YhVYk`YfVž`gcbXYfb
V]YhYb`Ui`W`Y]bY`D`UhhZcfa`ZØf`XYb`5i`ghUi`gW`j`cb`HYW`b]_Yb`i`bX
Gh]Ybž`X]Y`XUg`\_fYUh]j`Y`D`chYbn]U`XYg`HUbnyg`ghY][`Yfb"

GhUh]gh]_Yb`ni`f`J`YfVfY]hi`b[`j`cb`6fYU_XUbW`

9]bY`i a ZfU[ Y`XYg`8Yi hgW\Yb`HUbngdcfhj YfVUbXg`fB HU Ę`nY][hž
XUgg`g]W\`X]Y`5bnU\`XYf`6fYU\_XUbW! ðhYfYgg]YfhYb`]b
8Yi hgW\`UbX`]b`XYb`YhnhYb`Z0bZ`J\`fYb`j YfXcddY`h`Uh"A]h`fi bX
%\$\$"\$\$\$`U\_h]j Yb`HÅbnYfbž`j cb`XYbYb`j ]Y`Y`š [ YbX`]W\Y`g]bXž`k]fX
XYi h]W\ž`XUgg`6fYU_XUbW`]b`XYf`XYi hgW\Yb`?i`hi`f`]a a Yf
VY`]YVhYf`k]fX"

8]Y`5i gk ]f`_i b[Yb`XYf`7CJ ð!%- !DUbXYa]Y`Ui Z`X]Y`HUbngnYbY
k UfYb`nk Uf`\YfUi gZcfXYfbXž`YXcW\`g]bX`X]Y`F ØW__Y`f`ni`@]j Y!
J YfUbghU`hi b[ Yb`i bX`X]Y`K]YXYfVY`YVi b[ `j cb`HUbni`fgYb`]b
j c`Ya` ; Ub[Y`"J]Y`Y`HÅbnYf`VYf]W\hYb`j cb`Y]bYf`k UW\gYbXYb
; Ya Y]bgW\UZh`i bX`Y]bYf`Yf\Ò`hYb`HY]`bU`a Y`Ub`K cf\_g`cdgž`k Ug
<cZžbi b[`Z0f`X]Y`Ni`_i bZh`XYf`6fYU_XUbW!?!?i`hi`f`[]Vh"

8YhU]`g

6Ygi W\Yb`G]Y`i bg`Ui Z.`b!U["XY