

K cf_!@]ZY!6U`UbW. `K Ug`5a Yf]_UbYf`j cb
XYb`6f]hYb`YfbYb`_ÒbbYb

Gc`j]Y`Y`j cb`i bg`_ÒbbYb`Yg`g]W`Y]ghYbž`k Yb][Yf`ni
UfVY]hYbž`i bX`XcW`YbhgW`Y]XYb`k]f`i bg`XU[Y[Yb`"K Å\fybX
k]f`i bg`Ui ZX]Y`F ØW`_Y`f`Ub`XYb`5fVY]hgd`Uhn`j cfVYfY]hYbž
gW`Ui Yb`k]f`i bg`Ubž`k Ufi a`X]Y`K cf_!@]ZY!6U`UbW`]a a Yf
bcW`gc`gW`k Yf`ZUggVUf`]gh`H]a`5fa ghfcb[ž`XYf`(' !Å\f][Y
79C`j cb`5C`@ž`ghY`h`i a`')`I` \f`a cf[Ybg`Ui Z`9f`j Yfgi W`hž
XUg`J YfgYbXYb`j cb`9!A U]`g`V]g`+`I` \f`a cf[Ybg
ni fØW`_ni` \U`hYb`"8 UbUW`]gh`Yf` a cf[Ybgž`k Å\fybX`XYf
: U\fh`i bX`gdÅ`h`UVYbXg`dYf`9!A U]`YffY]W`VUf`"9]bYb`HY`]
XYg`K cW`YbYbXYg`[Yb]Y» h`Yf`Y]bY`5i gnY]hž`VY[]bb`h`XUbb
UVYf`Ua`GcbbhU[`i a` %-`I` \f`a]h`XYf`5fVY]hž`fi Zh`Ub`i bX
gW`fY]Vh`/ Ua`d`^Y`"d`/

Gc`j]Y`Y`j cb`i bg`_ÒbbYb`Yg`g]W`Y]ghYbž`k Yb][Yf`ni`UfVY]hYbž
i bX`XcW`YbhgW`Y]XYb`k]f`i bg`XU[Y[Yb`"K Å\fybX`k]f`i bg`Ui ZX]Y
F ØW`_Y`f`Ub`XYb`5fVY]hgd`Uhn`j cfVYfY]hYbž`gW`Ui Yb`k]f`i bg`Ubž
k Ufi a`X]Y`K cf_!@]ZY!6U`UbW`]a a Yf`bcW`gc`gW`k Yf`ZUggVUf`]gh

H]a`5fa ghfcb[ž`XYf`(' !Å\f][Y`79C`j cb`5C`@ž`ghY`h`i a`')`I` \f
a cf[Ybg`Ui Z`9f`j Yfgi W`hž`XUg`J YfgYbXYb`j cb`9!A U]`g`V]g`+`I` \f
a cf[Ybg`ni fØW`_ni` \U`hYb`"8 UbUW`]gh`Yf` a cf[Ybgž`k Å\fybX`XYf
: U\fh`i bX`gdÅ`h`UVYbXg`dYf`9!A U]`YffY]W`VUf`"9]bYb`HY`]
XYg`K cW`YbYbXYg`[Yb]Y» h`Yf`Y]bY`5i gnY]hž`VY[]bb`h`XUbb`UVYf`Ua
GcbbhU[`i a` %-`I` \f`a]h`XYf`5fVY]hž`fi Zh`Ub`i bX`gW`fY]Vh`9!A U]`g`

?UfYb`6`UW`_Yhž`79C`j cb`A YX]U7ca`I`?ž`Yf`Å`h`hÅ[`]W`Yhk`U`) \$\$
9!A U]`g`"G]Y`_ca`a`hidØb`_h]W`i a`%`,`.`\$`I` \f`bUW`<`Ui`gYž`i a`NY]h
a`h]` \f`Ya`Gc`b`ni`j`YfVf]b[Ybž`_Y`fh`XUbb`UVYf`i a`&\$. \$\$`I` \f`ZØf
5bf`i ZY`i bX`9!A U]`g`ni`f`5fVY]h`ni`fØW`_`

8]YgY'6Yf]W hY'ØVYf'XUg'@YVYb'j cb'79Cgž'k]Y'g]Y'&\$%']a
; i UfX]Ub'VYgWf]YVYb'k i fXYbž'g]bX'Y]bY'XYdf]a]YfYbXY'@Y'hØfY"
8]Y'5i hc fYb'XYg'5fh]_Y'g'ZUggYb'Yg' [i h'ni gUa a Ybž'k Ybb'g]Y
ZfU[Yb.' K Ug'Vf]b[hYgž'fY]W' i bX'YfZc'[fY]W'ni'gY]bž'k Ybb'a Ub
YXYb'HU['j cf'GcbbYbUi Z[Ub['Ui ZghY\Yb'a i ggž'i a ') \$\$'9!A U]`g
ni'VYUbhk cfhYb3

9]b][Y'k YfXYb'Uf[i a Ybh]YfYbž'XUgg'5fVY]h'[YbUi gc'`c\`bYbgk Yfh
]gh'k]Y'X]Y'5'hYfbUh]j Y/XUgg'Yg'Y]b' i bYbX'W]Yg'J Yf[bØ[Yb']ghž
XYb'[Ubnyb'HU['Ua' GhfUbX'ni'ZUi'YbnYbž'i bX'XUgg'DfcXi _h]j]hÅh
'XUg'; YZØ'\ž'Yhk Ug'YffY]W'h'ni' \UVYb' 'A YbgW]Yb' ['ØW_]W
a UW h"

→XYf']gh'UbXYfgž'UVYf']W'XYb_Yž'Yg']gh'ZU]f'ni'gU[Ybž'XUgg'XYf
Gk YYh'Gdch'k Y]hj cb') \$\$'9!A U]`g'dfc'HU['YbhZYfbh']ghž'UVYf'b]W'h
[Ubn'gc'k Y]h'YbhZYfbh'k]Y'XUg'ghÅbX][Y': Ui'YbnYb'Ua' GhfUbX"

'U'h1 K cf_!@ZY!6U`UbW!G_U`U 2

5b'X]YgY'GdUbbi b['Yf]bbYfh'a]W'Y]bY'U_hi Y''Y'Ghi X]Yž'X]Y
VY\Ui dhYhž'XUgg'Vf]h]gW]Y'5fVY]hbY\ a Yf'a Y\ f' l f'Ui VghU[Y']b
5bgdfi W' bY\ a Yb'U'g']\fY'?c''Y[Yb'Ui ZXYf'[Ubnyb'K Y'h'`b
; fc»Vf]hUbb]Yb'[UVYb'+) 'i'XYf'VYZfU[hYb'5fVY]hbY\ a Yf'Ubž
XUgg'g]Y'X]YgYg'→\f'j cfUi gg]W'h]W']\fYb'[YgUa hYb' l f'Ui V
bY\ a Yb'k YfXYb'f]a '8i fW]gW]b]hh'&+ 'HU[Y'dfc'→\f'`"

⇒a'XfUa Uh]gW]Yb'; Y[YbgUhm'XUni'Yfk UfhYhYb'bi f'(('i'XYf
Ua Yf]_Ub]gW]Yb'5fVY]hbY\ a Yfž'XUggY'VY'ni'hi bž'cVkc\''\f
A YX]Ub'VY]XØfZh][Yb'%&'HU[Yb''Y[h' 'bi f'Y]bYb'a Y\ f'U'g']b
7\]bU" HUhgÅW']W']gh'5a Yf]_U'Y]bYg'XYf'k Yb][Yb'@ÅbXYf'XYf
K Y'hž']b'XYa' Yg'_Y]bYb' [YgYhn']W]Yb'A]bXYghi f'Ui V' []Vh"

'U'h1 K cf_!@ZY!6U`UbW.'@ÅbXYfhUVY''Y 2

K Ufi a 'Y]bY'gc`W]Y' l b['Y]W\Y]h3'DfcZYggcf]b'ZØf'DgmW]c`c []Y
i bX'5i hc f]b'j cb' K Y''VY]b[. 'DfcXi W]h]j]hm'UbX' < Udd]bYgg'Uh
K cf_ '7Ufm'@'7ccdYf'V]YhYh'nk Y]'9f'_Åfi b[Yb'Ub''9fghYbgž'XUgg
5a Yf]_UbYf'j cb'BUhi f'Ui g'K cf_U\c`]Wg]bX.' 6Y]XYf'5fVY]h

j cfUbni _ca a Ybž]ghj cb[fi bX`Y[YbXYf`6YXYi hi b[`ZØf`]\f
GY`VghV]`X`i bX`ZØf`XUg`a U[Yž`XUg`g]Y`]\fYa `5fVY]h[YVYf`i bX`XYf
5i » Ybk Y`hj Yfa]hY`b`a ØW`hYb` `5a Yf]_U`]gh`fi bX`i a `X]Y`i \f`ZØf
; YgW`ÄZhY`[YØZbYh`

8]Y`nk Y]hY`9f_`Äfi b[`]ghž`XUgg`Ua Yf]_Ub]gW`Y`5fVY]hbY`a Yf
Ui Z[fi bX`gW`k ÄW`YfYf`; YgY`hY`]b`6Yni [`Ui Z`9bh`Uggi b[Ybž
?fUb`_YbghUbX`i bX`5fVY]hgnY]hi bg]W`YfYf`]b`]\fYa `5fVY]hgd`Uhn
g]bX`"7ccdYf`gW`fY]Vh` 8 U`A]hUfVY]hYf`UbZ`Ä`][Yf`ZØf`XYb
gcZcfh][Yb`5fVY]hgd`Uhmj Yf`i gh`g]bXž`k Ybb`g]Y`b]W`h`]YZfbž
j Yfa i hY`]W`ž`XUgg`j]Y`Y`5fVY]hbY`a Yf`5b[gh`XUj cf`\UVYbž`\fYb
l f`Ui VgUb`gdfi W`]b`5b`gdfi W`ni `bY`a Ybž`gc`a U[Yf`Yf`Ui W`]ghž
k Y`]g]Y`VYZØfW`hYbž`XUgg`X]Yg`X]Y`6chgW`UZh`gYbXYhž`XUgg`]W`
k YfXY`b]W`h`U`g]j c``Yb[U[]Yfh`cXYf`%\$\$`i` [YVYbX
k U`f[Ybca`a Yb`k YfXYb`"

8]YgY`9]bghY``i b[`ni f`5fVY]h`]gh`Xi fW`i bX`Xi fW`XYdf]a]YfYbXž
gY]Yg`Y]bY`Ni gh]a a i b[`ni a `; fYUh`5a Yf]W`Ub`8fYUa `cXYf`Y]b
gW`k YfYf`; U``j cb` DfÄgYbh]ga i g ``Ni`j]Y``5fVY]h`_Ubb`XYf
; Ygi bX`Y]h`gW`UXYb`i bX`X]Y`DfcXi `_hj]h`Äh`a]bXYfb``5i » YfXYa
fi bX`]W`XYb`_Y`b]W`hž`XUgg`Yg`Ubh]_Ud]hU`]gh]gW`]ghž`XUg`ni`gU[YbŁ
[]Vh`Yg`g]W`Yf`]W`VYggYfY`8]b[Yž`X]Y`k]f`U`g`A YbgW`Yb`a]h
i bgYfYf`NY]h`UbZUb[Yb`_ØbbYb3

8]YgY` : fU[Y`k i fXY`gW`cb`cZi[YghY``hž`Ua `VY`_Ubb`hYghYb`j]Y``Y]W`h
j cb`XYa `2`_cbca Yb`æ`b`A UmbUfX`?YmbYgž`XYf`j cfUi ggU[hYž
XUgg`X]Y`6Øf[Yf`XYf`bXi ghf]Y`ÄbXYf`V]g`Yhk U`&\$` \$`%) !Ghi bXYb!
K cW`Yb`UfVY]hYb`i bX`X]Y`Xi fW`X]Y`HYW`bc`c[]Y`[Yk`cbbYbY`NY]h
ZØf`YX`YfY`6YgW`ÄZh][i b[Yb`bi hnYb`k ØfXYb. `FY]gYbž`A i g]_ž
?i bghž`@]hYfUhi f`"

@Y]XYf``U[`?YmbYg`ZU`gW``HYW`bc`c[]Y`k Uf`_Y]b`6YZfY]Yfž`gcbXYfb
Y]b`@Y`fa Y]ghYfž`XYf`j cb`?cbnYfb[][UbhYb`Y]b[YgY`hnh`k i fXYž`i a
i bg`ni ` \Y`ZYb žj cb`ØVYfU``Ui g`ni `UfVY]hYb`"

`U`h1 K cf_!@]ZY!6U`UbW` 2 A]WfcgcZh`A Uf`_Yh]b[_Ua`dU[bY`ZØf
C Z]W` `` *)

J]Y`Y`j cb`i bg`ghY`Yb`VYfY]hg`X]Y`G]bb`cg][_Y]h`Ub[Yf
5fVY]hgnY]hYb`]b` : fU[Y`"J]Y`Y]W`h`k YfXYb`i bg`X]Y`A YbgW`Yb`]b
ZYfbYf`Ni _i bZh`a]h`XYf`a]h`Y]X][Yb`6Y`i gh][i b[`k U\fbY\`a Yb`ž`X]Y
k]f`<Yi Yb`Å[Yfb`i bX`K U\fgU[Yfb`j cfVY\`U`hYb`"G]Y`\UVYb`]\f
@VYb`XUa]hj YfVfUW`h`k]Y`<Ua ghYf`]a `FUX`ni `UfVY]hYb`"G]Y
XUW`hYb`ž`g]Y`k ØfXYb`Yhk Ug`YffY]W`Yb`

B]W`h`YXYf`_Ubb`Yg`g]W`"Y]ghYb`ž`k Yb][Yf`ni `UfVY]hYb`ž`UVYf`k]f
_ØbbYb`i bX`gc`hYb`ni a]bXYgh`i bgYfYb`i f`Ui V`bY\`a Yb`": Øf
Y]b][Y`a U[`X]Yg`VYXYi hYb`ž`Y]bYb`k Yb][Yf`"Y]ghi b[gghUf`_Yb`æV
Ubni bY\`a Yb`ž`UVYf`[`Ui VYb`G]Y`a]fž`Yg`"c\`bh`g]W`"8]Y`5`hYfbUh]j Y
VYghY\`h`XUf]b`ž`XYb`gW`a]Yf][Yb`Dc`"XYg`?Uff]YfYfZc`[g`k Y]hYf
\]bUi Zni _Y`hYfb`i bX`ZYghni ghY`"Yb`ž`XUgg`Yg`gY`Vgh`Ui Z`XYa
<Ø\Ydi b`_h`Y]bZUW`_Y]bY`Fi \YdUi gY`[]Vh` `bi`f`a Y\`f`j ca
; `Y]W`Yb`"

F Y]gYb`ž`NY]h`a]h`i: Ua]`Y`i bX` : fYi bXYb`j YfVf]b[Yb`ž`Y]bY`bYi Y
GdfUW`Y`YfbYb`ž`[i hY`6ØW`Yf`"YgYb`ž`c` [[Yb`[Y\Yb`g]bX`j]Y`
k]W`h][Yf`U`g`) \$\$`9!A U]`g`Ua `HU[`ni `VYUbhk cfhYb`"K Ybb`k]f`X]Y
7\`ccgY`@]Z` !F\`Yhcf]_`VY]gY]hY`"Y[Yb`i bX`i bgYf`@VYb`j cb
Y]bYa `dfU`_h]gW`Yb`ž`cV`Y`_h] Yb`GhUbXdi b`_h`Ui g`VYk YfhYb`ž`
k YfXYb`gc`j]Y`Y`j cb`i bg`ZYghghY`"Yb`ž`XUgg`k]f`k Yb][Yf`UfVY]hYb
_ØbbYb`i bX`gc`hYb`"8Ug`@VYb`a UW`h`gc`j]Y`a Y\`f`GdU» "

A Y\`f`ni a `H\Ya U`K Yb][Yf`UfVY]hYb`Z]bXYb`G]Y`]b`<ck `A i W`"g
9bci [\3. `A cbYm`UbX`h`Y` ; ccX`@]Z`j cb`9Xk UfX`i bX`F`cVYfh
G_]XY`g`_m`"

@Y]hV]`X. `8fYUa gh]a Y

6Ygi W\Yb`G]Y`i bg`Ui Z.`Y]bY!fY]gY"XY