

HYa d`]b`ÄXh`9I dYfhYb`ni`'8Yb_a U`dZY[Y!
; YgdfÄW`]a`'6Øf[Yf[UfhYb`Y]b

6Ui ZUW`Yi hY`VYg]W`h][Yb`X]Y`gUb]YfhY`< mdUfgW`U`Y`]b
HYa d`]b.`9]b`9I dYfhYb[YgdfÄW`ni`f`8Yb_a U`dZY[Y`Ua`i`(""
GYdhYa VYf`]a`'6Øf[Yf[UfhYb"

⊕`HYa d`]b`ghY`h`Y]b`VYXYi hYbXYf`UfW`]hY`hcb]gW`Yf`@UbXa Uf_Y
]a`i`c_i`g`XYf`5i`Za`Yf_gUa`_Y]h`5a`'A`]h`k`cW`ž`XYa`i`("GYdhYa VYfž
k`]fX`]b`XYf`GhUXh`Y]b`k`]W`h][Yg`HfYZZYb`j`cb`i`UW`Yi hYb`Ui`g`XYf
6Ui`!`i`bX`8Yb_a U`dZY[Y`ghUhhZ]bXYbž`XUg`j`ca
6fUbXYbVi`f`[]gW`Yb`@UbXYgUa`h`ZØf`8Yb_a U`dZY[Y`i`bX
5fW`Äc`c`[]gW`Yb`@UbXYga`i`gYi`a`'cf[Ub]g]Yfh`k`]fX`"8]YgY
; YgdfÄW`Y`g]bX`HY`]`Y]bYf`FY`]\Y`j`cb`fY[Y`a`Ä»][Yb
J`YfUbghU`hi`b[Ybž`X]Y`[Ya`Y]bgUa`'a`]h`XYf`6fUbXYbVi`f`[]gW`Yb
5fW`]hY`_hYb_Ua`a`Yf`i`bX`XYf`⊕[Yb]Yi`f_Ua`a`Yf`Xi`fW`[YZØ`fh
k`YfXYb`"8]Y`9I dYfhYbVYgdfYW`i`b[`Z]bXYh]a`'6Øf[Yf[UfhYb`j`cb
HYa d`]b`ghUhh`i`bX`VY[]bbh`i`a`'%"`I` \f"

⇒`F`U`a`Yb`X]YgYf`J`YfUbghU`hi`b[`k`]fX`VYgcbXYfg`X]Y
< mdUfgW`U`Y`]bg`F`Ua`dYb`]W`h`[YfØW`h`"8]YgY`Y]bXfi`W_gj`c`Y
?`cbghfi`_h]cbž`X]Y`nk`[]gW`Yb`%`-`*`+`i`bX`%`-`+`&`Yff]W`hYh`i`i`fXYž` \Uh
Y]bY`Ub[Y`; YgW`]W`hY`i`bX`]gh`bUW`'XYb`?`cbghfi`_h]cbgd`ÄbYb`XYg
fYbca`a`]YfhYb`5fW`]hY`_hYb`i`'f]W`'A`Øh`Yf`Yb`hghUbXYb`"8]Y
6Ui`]b[Yb]Yi`fY`j`cb`HYa d`]b` \UVYb`X]Y`i`fgdfØb[`]W`Yb`D`ÄbY
Ub[YdUgghž`i`a`'XYb`gdYn]Y`Y`b`5bZcfXYfi`b[Yb`XYf`GhUXh`[YfYW`h
ni`k`YfXYb"

K`UbXY`ni`f`A`Y`f`nk`YW`_bi`hni`b[

8]Y`< mdUfgW`U`Y`k`]fX`]b`bU`Yf`Ni`_i`bZi`Y]bY`VYa`Yf`_Yb`gk`YfhY
HfUbgZcfa`Uh]cb`Xi`fW`'VYb`"B`UW`'XYf`i`a`ZUggYbXYb`GUb]Yfi`b[

k]fX`g]Y`U`g`A Y`fnk YW_gUU`ZØf`j YfgWk]YXYbY`J YfUbgU`hi b[Yb
[Ybi hnh`k YfXYb``9]b`VYgcbXYfg`]bhYfYggUbhYg`A Yf_a U`k]fX`X]Y
l a k UbX`i b[`]b`Y]bY`9]g\U`Y`k Å`fYbX`XYf`K]bhYfa`cbUhY`gY]b"
8]YgY`]bbcj Uh]j Y`Bi hni b[`i bhYfghfY]Wk h`XYb`K Yfh`XYf`gUb]YfhYb
Ghfi _hi f`i bX`]`fY`5bdUggi b[gZÅ`][_Y]h`Ub`X]Y`gU]gcbU`Yb
6YXØfZb]ggY`XYf"; Ya Y]bXY"

8]Y`; YgdFÅWk Y`Ua`A]hkh`cWk`V]YhYb`Y]bY`Yfj`c ffU[YbXY
; Y`Y[Yb`Y]h`ZØf`; UWk`Yi hYž`g]Wk`ØVYf`XYb`U`hi Y`Yb`GhUbX`XYf
GUb]Yfi b[gUfVY]hYb`Ui gni hUi gWk Yb`i bX`ni _ØbZh][Y`Dfc`Y`_hY`ni
X]g_i h]YfYb``9]b`gc`Wk Yg`HfYZZYb`ZØfXYfh`b]Wk h`bi f`XYb`5i ghUi gWk
j cb`K]ggYb`i bX`9fZU`fi b[Ybž`gcbXYfb`j YfghÅf`_h`Ui Wk`XUg
6Yk`i gghgY]b`ZØf`XYb_a U`[YgWk`ØhnhY`6Ui hYb`]a`@UbX
6fUbXYbVi f[``8]Y`< mdUfgWk U`Y`gY`Vghž`a]h`]`fYf`Y]bn][Ufh][Yb
: cfa`i bX`6Ui k Y]gYž`]gh`Y]b`DUfUXYVY]gd]Y`XUZØfž`k]Y`Y]ghcf]gWk Y
5fWk]hY`_hi f`a`cXYfb`]bhYfdYh]Yfh`i bX`ZØf`ni _ØbZh][Y
; YbYfUh]cbYb`Yf`U`hYb`k YfXYb`_Ubb"

8 Ug`ϕbhYfYggY`Ub`gc`Wk Yb`5fWk]hY`_hi fYb`]gh`b]Wk h`bi f`Y]bY`; fU[Y
XYf`Y`gh`Yh]_``9g`gd]Y[Y`h`Ui Wk`X]Y`K YfhgWk`Åhni b[`ZØf`X]Y
ϕ[Yb]Yi fg_i bgh`i bX`X]Y`?fYUh]j]hÅh`XYf`5fWk]hY`_hYb`k]XYf``8]Y
GUb]Yfi b[`X]YgYf`k]Wk h][Yb`ϕZfUghfi`_hi f`]gh`_Y]b`]gc`]YfhYg
9fY][b]gž`gcbXYfb`HY`]Y]bYg`[fØ» YfYb`HfYbXg`]a`6YfY]Wk
8Yb_a U`dZY[Yž`k`c`]a`a Yf`a`Y`f`K`Yfh`Ui ZX]Y`?ca`V]bUh]cb`j`cb
\]ghcf]gWk Yb`i bX`nY]h[YbØgg]gWk Yb`Bi hni b[ga`Ø[`]Wk`_Y]hYb
[Y`Y[h`k]fX"

ϕg[YgUa`h`k]fX`XUg`9l dYfhYbhfYZZYb`]b`HYa`d`]b`b]Wk h`bi f`XUni
VY]hfU[Ybž`X]Y`< mdUfgWk U`Y`]b`]`fYf`bYi Yb`F`c`Y`VY`_Ubbh`ni
a`UWk Ybž`gcbXYfb`Ui Wk`Y]bYb`VYXYi hYbXYb`GWk f]hh]b`XYf
8Yb_a U`dZY[Y`XUfghY`Yb"

6Ygi W\ Yb 'G]Y 'i bg 'Ui Z. 'X]Y!b UW\ f]W\ hYb "bYh