



ARTS3571

5Xj UbWX`GdUb]g\`6

HYfa `Hk c`#`&\$%



GWcc`cZ< i a Ub]hYg`UbX`@Ub[i U[Yg`#` I BGK `5ftg`UbX`GcWU`GWYbWg

7ci fgY`Cj Yfj]Yk

`GHUZZ7cbhUWñ8YHU]`g`

`7cbj Ybcfg`

B Ua Y	9a U]`	5j U]UV]]m	@cWUñcb	D\cbY
8U]U`; i]`Åb	X"[i]`YbXi ffY[c4 i bgk "YXi "Ui	VmUddc]bñ Ybh	A cfj Yb`6fck b	d`YUgY Wt b h U Wñ Vm Ya U]

GW\cc``7cbhUWññZcfa Uñcb

GW\cc``cZ<i a Ub]ñYg`UbX`@Ub[i U[Yg

@cWUñcb. `GW\cc``C Z]WñA cfj Yb`6fck b`6i]X]b[ž`@Yj Y``&ž&),

CdYb]b[`<ci fg.`A cbXUm!`: f]XUmž`- Ua `!`) da

D\cbY. `ž*%&`-' ,) `%*, %

: U! . `ž*%&`-' ,) ; , +\$)

9a U]: [\U`4 i bgk "YXi "Ui](#)

7ci fgY'8YHU]`g

7fYX]hDc]bng`*`

Gi a a UfmicZ\hY'7ci fgY

K]h'a cFY'hU' (+\$'a]')cb'bUHj] Y'GdUb]g\`gdYU_Yfg]b`&%W'e i bff]Ygž'h]g "XYXd'X]j Y" W'e i fgY'k]'YbUVY
mci`h'e W'e a a i b]WUHY'UhUb'UXj UbW'X'Y] Y'Zcf'h'cgY'k]g\]b[`h'e`fUj Y'žk cf`cf'gh] Xm]b`h'YgY'W'e i bff]Yg"
Mci`k]'XYj Y'cd`\][\`mYZYW]j Y'gdYU_]b[žfYUX]b[`UbX'k f]h]b[`g_]`g'h'fci [\`U'k]XY'j Uf]YhmcZdfUW]WU'
hUg_g"J cWUVi`UfmUbX'[fUa a Uh]WU'g]hfi W]i fYg`UfY`dfYgYbH'X']b`h'Y'W'e bH'i h'eZW`h' fU`mifY'Yj Ubh]ggi Yg`]b
h'Y'GdUb]g\`gdYU_]b[`k cFX'UbX'mci f`YUfb]b[`k]'VY'Yb\UbW'X'k]h'cb`]bY'W'e a dcbYbng`XYg][bYX'h'e
a U_Y`Ub[i U[Y'UW'e i]g]h'cb`Z]gh'f'UbX'a cFY'YZ]W]YbH'

7ci fgY'@YUfb]b[`Ci hW'e a Yg

%` DfcXi W' WYUfžXYHU]YX'k f]hY'b'cf'gdc_Yb'X]gW`gg]cbg`'cb'U'k]XY'fUb[Y'cZgi VYWg
&" GY'Za cb]h'cf`YUfb]b[`dfc[fYgg'UbX']XYbh]ZnUFYUg`]b`bYXX'cZ]a dfcj Ya YbhUbX`#cf'fYj]Yk
' " 7f]h]WU`mYI Ua]bY'UbX'YI d'U]b`UVci h'h'Y'fc`Y'cZ'h'Y`<]gdUb]Wk cFX']b`W`h' fU`]ggi Yg
(" A UbU[Y]bh'fUW]cbg`]b`GdUb]g\`fY"["]b'h'f]i d]h]b[žW'Ub[]b[`h'cd]W'fYgi a]b[`cf'W'e b]h]bi]b[ž
WUf]Z]b[`a YUb]b[`E'cb'U'k]XY'fUb[Y'cZgi VYWg
) " I bXYfghUbX'UbX'i gY'UXj UbW'X'[fUa a Uh]WU'g]hfi W]i fYg`]b`cfU'UbX'k f]hY'b`Z'fa

HYUW]b[`G'fUHY[]Yg`

H\]g`W'e i fgY']g`XYg][bYX'Zcf'gh] XYbng`k \c`\Uj Y`Z]b]g\YX'5Xj UbW'X'GdUb]g\`5`cf`\Uj Y'Ub'Yei]j U'Ybh`Yj Y`
cZGdUb]g\`" H\Y'W'e i fgY'gYY_g`h'e WYUHY'Ub`]bWi`g]j Y`Ybj]fcba Ybhk \YfY'gh] XYbng`\Uj Y`cddcf]i b]h]Yg`h'e
YI d'cfY`h'Y'fUf[Yh'Ub[i U[Y'Uh'h'Y'f'ck b'dUW'žZc`ck]b[`h'Y]f'ck b`]b'h'fYg]h" #]bWi`XYg`]b'h'fYg]h]b[ž]b'h'f!
W`h' fU`fYU`!]Z`YUfb]b[`YI dYf]YbW'gžk \]W'U'fY'U`_YmZcf`]Z]!`cb[`YUfb]b[" 9I dYf]YbW'g`cZUW]j Y'UbX
X]U'YW]W'YUfb]b[`h'e`XYj Y'cd`W]h]WU`h`b_]b[`UfY'U'gc`]bWi`XYX']b`h'Y'W`ff]W`i a " H\Y'`Ub[i U[Y'a UHY'f]U'g
i gYX'Zcf'h]g`W'e i fgY'UfY'fYU`h'i h]žUi X]cg`cf`Z]a g`VUgYX'i dcb`h'Y'VY']YZ'h'UhZ'fY][b`Ub[i U[Y`YUfb]b[

5ggYgga Ybh

5ggYgga YbhHUg_g`

5ggYgga YbhHUg_	K Y][\h	8i Y'8UHŸ	Gh XYbh@YUfb]b[Ci hWta Yg'5ggYggYX
C fU`	&\$!`	Zca `k YY_`' `hc`k YY_`-`	%z&z(
F YUX]b[#k f]h]b[`	&\$!`	k YY_`;	%z ž)
; fUa a Uf`E i]n`	' \$!`	k YY_`) `UbX`%\$	&ž)
C b`]bY#Uj X]cj]gi U`dcfhz`]c`	' \$!`	Hfci [\ci hŸY`hŸfa	%z&z

5ggYgga Ybh8YHU]`g

5ggYgga Ybh%`C fU`

GHUfhXUHŸ. `k YY_`

@Yb[h. `j Uf]Yg

8YHU]`g.

Hi fb]h]b`gYh]b[.`H\]g`]g`bchU`Hi fb]h]b`Ugg][ba Ybh

F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

K YVg]hYg`]b`@YUfb]b[`D`UhZcfa `fA ccX`YŁ

H\]g`Wci fgY`i gYg`A ccX`Y`Ug`U`fYgci fW`W`bfY`k \YfY`gh XYbfg`WJb`UWfY`gg`U`k]XY`gY`YW]cb`cZa UfYf]U`g

- 9@9'7c'YWW] b.'@bYU'U''bYU''9X]W]cbYg'GA žA UXf]X'&\$&'fG(*, "" (&%#&(Ł

7ci fgY'9j U'i Uh]cb'UbX'8Yj Y`cda Ybh

H\]g'Wci fgY'\Ug'VYYb'WUb[YX'Zc`ck]b['ghi XYbhg'ZYXVUW_ Zca 'G&'&\$% ""K cf_cUX'UbX'UggYgga Ybhg
\Uj Y'VYYb'fYXi W'X"

7ci fgYg'UFY'dYf]cX]W]`mifYj]Yk YX'UbX'gh XYbhg' ZYXVUW_]g'i gYX'hc'ja dfcj Y'hYa "': YXVUW_]g
[UhYfYX'i g]b['j Uf]ci g'a YUbg']bW' X]b['l BGK 'g'7ci fgY'UbX'HYUW]b['9j U'i Uh]cb' a dfcj Ya Ybh
"A mYI dYfY]bVW"

Gi Va]gg]cb`cZ5ggYgga YbhHUg_g

Gi Va]gg]cb`cZ5ggYgga YbhHUg_g

Hi fb]h]b`Gi Va]gg]cb

≠mci`YbWci bHYf`U`dfcV`Ya`k`Yb`U`HYa`dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybh`h`fci`[`\`Hi`fb]h]b`z`d`YUgY`
HY`Yd`cbY`9I`HYfbU`Gi`ddcfhcb`-`,`)`'`'`'`%cf`Ya`U]`h`Ya`cb`YI`HYfbU`HY`hgi`ddcfh4`i`bgk`"YXi`"Ui`"Gi`ddcfh`
`ci`fg`UfY`,`.\$\$Ua`-`%\$.\$\$da`cb`k`YY`XUmg`UbX`-`.\$\$Ua`-`).\$\$da`cb`k`YY`YbXg`fI`*)`XUmg`U`mY`UfL`≠mci`
UfY`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`YbhXi`Y`hc`U`ZU`hik`]h`Hi`fb]h]b`mci`a`Um`Udd`mi`Zc`f`Ub`YI`HYbg]cb`z`Vi`hmc`i`
a`i`ghfY`hU]b`mci`f`h]W`Yhbi`a`VYf`Zca`9I`HYfbU`Gi`ddcfhfU`cb[`k`]h`Ubmc`h`Yf`fY`Yj`UbhXcW`a`Yb`hg`L`hc`
]bWi`XY`Ug`Yj`]XYbW`hc`gi`ddcfhmc`i`f`YI`HYbg]cb`Udd`]W]h]cb"≠mci`Ya`U]`9I`HYfbU`Gi`ddcfhmc`i`k`]"`

5 WUXYa]W<c bYghmUbX`D`U[]Uf]ga

D`U[]Uf]ga `]g`i g]b[`hY`k cfXg`cf]XYUg`cZchYfg`UbX`dfYgYbh]b[`hYa `Ug`mci f`ck b" `hWUb`hU`Y`a Ubm
Zcfa gž`Zca `XY`]VYfUHY`WXYU]b[`hc`UWV]XYbhU`mW`dm]b[`Zca `U`gci fW`k]h`ci hUW_bck`YX[Ya Ybh`

I BGK `[fci dg`d`U[]Uf]ga `]bhc`hY`Zc`ck]b[`WUHY[cf]Yg.

7 cdm]b[.`i g]b[`hY`gUa Y`cf`j Yfmg]a]Uf`k cfXg`hc`hY`cf][]bU`hYI hcf]XYU`k]h`ci hUW_bck`YX[]b[`hY`
gci fW`cf`i g]b[`ei chU]cb`a Uf_g" `H\]g`U`gc`Udd`]Yg`hc`]a U[Ygž`UfhUbX`XYg][b`dfc`YWgž`Ug`k Y`Ug`
dfYgYbhU]cbg`k \YfY`gca YcbY`dfYgYbh]g`UbchYf`g`]XYUg`cf`k cfXg`k]h`ci hWYX]h`

hUddfcdf]UHY`dUfUd`fUg]b[.`7`U`b[]b[`U`ZYk`k cfXg`UbX`d`fUgYg`k`Y`a cghmifYU]b]b[`hY`cf][]bU`
ghfi W`fY`UbX`#`f`dfc[fYgg]cb`cZ]XYUg`cZ`hY`cf][]bU`ž`UbX`]bZcfa U]cb`k]h`ci hUW_bck`YX[Ya Ybh`H\]g`U`gc`
Udd`]Yg`]b`dfYgYbhU]cbg`k \YfY`gca YcbY`dUfUd`fUgYg`UbchYf`g`]XYUg`cf`k cfXg`k]h`ci hWYX]hU`bX`hc`
d]YW]b[`hc[YhYf`ei chYg`UbX`dUfUd`fUgYg`]bhc`U`bYk`k`c`Yž`k]h`ci hUddfcdf]UHY`fYZYfYbW]b["

7 c`i g]cb.`k cf_]b[`k]h`chYfg`Vi hdUgg]b[`cZ`hY`k cf_]Ug`U`dYfgcb`g`]bX]j]Xi U`k cf_]7 c`i g]cb`U`gc`
]bWi XYg`dfcj]X]b[`mci f`k cf_]hc`UbchYf`gh`XYbhVYZc`fY`hY`Xi Y`XUHYž`cf`Zc`f`hY`di fdcgY`cZ`hY`a

- i bXYfghUbx'mci f'f][\hg'UbX'fYgdcbg]V]h]Yg'Ug'U'gh XYbhUhl BGK
- VY'Uk UfY'cZd'U[]Uf]ga ž'Wcdmf][\hž' BGK 'Gh XYbh7cXY'cZ7cbXi W'Ubx'5W'WdhUV'Y'I gY'cZ I BGK '⇒H'F Ygci f'Wg'Dc`]Wm
- VY'Uk UfY'cZh'Y'ghUbxUfXg'cZVY\Uj]ci f'YI dYW'X'cZYj Yfmcby`]b'h'Y'I BGK 'Wca a i b]m
- `cWJh'gYfj]Wg'UbX']bZcfa Uhcb'UVci hl BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZh'YgY'UfYUg'k]`VY'ZJa]]Uf'hc'mci ž'ch'Yfg'k]`VY'byk "; U]b]b['U'gc`X'i bXYfghUbx]b['cZU`h'Y fY'UH'X'UgdYW'g'cZ9@G9'k]`Y'd'mci 'a U_Y'h'Y'a cghcZmci f'gh X]Yg'Uhl BGK ""

[\hd. #gj V'YWf i \]XYg" \]VfUfm'i bgk "YXi "Ui #` \]gY#JVci h' \]gY](#)

