



ARTS2908

DfYa cXYfb'>UdUb. 'GhUhi gžGYI 'UbX'Dck Yf

HYfa 'CbY' '#`&\$%-

7ci fgY'8YHJ>`g

7fYX]hDc]bhtg`*`

Gi a a UfmicZ`hY'7ci fgY

Gi V`YWh5fYU. l` a_ W`ie S` V`9 W`VWdE fgV[W`e

H\]g`W`ci fgY`W`b`U`gc`V`Y`gh`X]YX`]b`h`Y`Z`c`k`]b[`gdY`W`U`]gU`h`cbg. `3e[S` E fgV[W`e] : [efackl <SbS` W`eW` E fgV[W`e

H\]g`W`ci fgY`c`ZY`fg`U`h`Ya`U`h`W`c`j`Y`f`j`Y`k`c`Z`>UdUbYgY`]\]g`h`c`f`m`i`Z`c`a`d`f`Y`\]g`h`c`f`m`i`h`c`h`Y`A`Y`j`]'`a`d`Y`f`]U` F`Y`g`h`c`f`U`h`c`b`c`Z`%`*`,`z`]h`g`W`b`h`f`U`h`h`Ya`Y`V`Y`]b[`h`Y`h`]\]g`h`c`f`m`i`c`Z`k`c`a`Y`b`z`[`Y`b`X`Y`f`U`b`X`g`Y`i`U`]h`Y`g`"5g`h`Y`W`e`i`fgY`]g`Y`g`g`Y`b`h`U`m`U`W`h`i`f`U`U`b`X`g`c`W`U`h`]\]g`h`c`f`m`i`z`m`c`i`k`]`b`c`h`c`b`m`X`]g`W`g`g`h`Y`]X`Y`U`g`U`b`X`g`c`W`U`h`d`f`U`W`h`W`g`c`Z` f`i`]b[`W`U`g`g`Y`g`f`W`]]`U`f`]g`h`c`W`U`h`g`U`b`X`h`Y`b`V`i`g`]\`#`U`f`f`]c`f`g`L`Z`V`i`h`k`]`U`g`c`Y`i`U`a`]b`Y`d`c`d`i`U`f`6`i`X`X`\]g`a`z`Z`_` f`Y`][`]c`b`z`d`Y`U`g`U`b`h`f`Y`V`Y`]c`b`z`W`e`a`a`c`b`Y`f`f`Y`g`]g`h`U`b`W`z`U`b`X`U`g`d`Y`W`g`c`Z`d`c`d`i`U`f`W`h`i`f`Y`"

7ci fgY`@YUfb]b[`Ci h`W`e`a`Yg

%`8`Y`a`c`b`g`h`f`U`h`Y`_`b`c`k`Y`X`[`Y`c`Z`h`Y`h`]\]g`h`c`f`m`i`c`Z`d`f`Y`a`c`X`Y`f`b`i`>UdUb`"
&`5`b`U`m`g`Y`d`f`Y`a`c`X`Y`f`b`i`>UdUbYgY`<`]\]g`h`c`f`m`i`h`c`f`i`[`\`h`Y`h`Y`b`g`c`Z`[`Y`b`X`Y`f`U`b`X`Z`Y`a`]b`]g`h`g`W`X`c`U`f`g`h`d`"
'`" `7`c`b`g`h`f`i`W`h`U`f`[`i`a`Y`b`h`g`U`V`c`i`h`d`f`Y`a`c`X`Y`f`b`i`>UdUbYgY`<`]\]g`h`c`f`m`i`b`k`f`]h`Y`b`U`b`X`#`c`f`j`Y`f`V`U`Z`c`f`a`"
(`" `=>Y`b`h`]z`m`_`Y`m`X`Y`V`U`h`Y`g`U`b`X`W`e`b`W`d`h`g`]b`d`f`Y`a`c`X`Y`f`b`i`>UdUbYgY`h`]\]g`h`c`f`m`i`
)`" `@`c`W`U`h`Y`U`b`X`U`b`U`m`g`Y`d`f`]a`U`f`m`i`U`b`X`#`c`f`g`Y`W`e`b`X`U`f`m`a`U`h`Y`f`]U`f`Y`Y`j`U`b`h`c`d`f`Y`a`c`X`Y`f`b`i`>UdUbYgY`h`]\]g`h`c`f`m`i`

HYUW`X`]b[`G`h`f`U`h`Y`[`]Yg`

H\]g`W`ci fgY`]b`h`c`X`i`W`g`g`h`i`X`Y`b`h`g`h`c`_`Y`m`X`Y`V`U`h`Y`g`U`V`c`i`h`h`Y`Y`U`f`m`i`a`c`X`Y`f`b`i`h`]\]g`h`c`f`m`i`c`Z`>UdUbz`k`]h`U`b` Ya`d`U`g`]g`c`b`k`c`a`Y`b`h`g`U`b`X`[`Y`b`X`Y`f`h`]\]g`h`c`f`m`i`"h`i`g`Y`g`Y`W`h`i`f`Y`g`h`c`h`Y`U`W`X`W`e`b`h`Y`b`h`z`U`b`X`h`h`c`f`]U`g`h`c`U`c`k` gh`X`Y`b`h`g`h`c`X`]g`W`g`g`h`Y`f`f`Y`U`X`]b[`H`i`h`c`f`]U`U`g`g`Y`g`g`a`Y`b`h`g`U`f`Y`X`Y`g`[`b`Y`X`V`c`h`h`c`Y`b`W`e`i`f`U`[`Y`g`h`Y`U`X`m` Y`b`[`U`[`Y`a`Y`b`h`f`d`U`h`]W`d`U`h`c`b`E`U`b`X`h`c`U`X`X`X`Y`d`h`h`c`h`h`c`f`]U`X`]g`W`g`g`]c`b`f`&l`f`Y`g`d`c`b`g`Y`g`z`d`i`g`X`]g`W`g`g`]c`b` ei`Y`g`h`c`b`g`L`h`Y`h`Y`g`Y`U`f`W`X`d`f`c`Y`W`h`h`Y`d`g`g`h`i`X`Y`b`h`g`h`c`i`b`X`Y`f`h`U`_`Y`g`h`f`i`W`h`i`f`Y`X`z`]b`X`Y`d`Y`b`X`Y`b`h`f`Y`g`Y`U`f`W`X`"

5ggYgga Ybh

5ggYgga YbhHUg_g

5ggYgga YbhHUg_	K Y][\h	8i Y'8UH	Gh XYbh@YUfb]b[Ci Hta Yg'5ggYggYX
!WUgg'HYgh%	&\$!	% #\$(#&\$%- '%%\$\$'5A	%&&Z(
!WUgg'HYgh&	&\$!	\$' #\$(#&\$%- '%%\$\$'5A	%&&Z(
!WUgg'HYgh' '	&\$!	%+#\$(#&\$%- '%%\$\$'5A	%&&Z(
7f]hWU'6]V'c[fUd\m	(\$!	&, #\$(#&\$%- '%%) - 'DA	%&&Z Z(Z)

5ggYgga Ybh8YHJ]`g

5ggYgga Ybh% !WUgg'HYgh%

GHUfhXUH. 'K YY_-(

8YHJ]`g. '7cj Yfg'WcbhYbhZca 'k YY_g'&! ("H\Y'h'ghk]'Wcbg]ghcZ&\$'a i 'hd'Y!Wc]W'ei Ygh]cbg'VUgYX'cb hY'fYUX]b[gZ'YW'fY'UbX'hi hcf]U'WcbhYbhfY'Yj Ubh'hc'hY'k YY_g'VY]b['UggYggYX'"Mci f'a Uf_'k]'VY fY'YUgYX'Uddfc]a UH'mcbY'k YY_'UZf'cb'A ccX'Yz'UbX'Z fhYf'ZYXVUW_'k]'VY' []j Yb']b'U'gi VgYei Ybh hi hcf]U'j]U'U' [YbYfU'X]gW gg]cb"

5ggYgga Ybh& !WUgg'HYgh&

GHUfhXUH. 'K YY_+

8YHJ]`g. '7cj Yfg'WcbhYbhZca 'k YY_g')!+"H\Y'h'ghk]'Wcbg]ghcZ&\$'a i 'hd'Y!Wc]W'ei Ygh]cbg'VUgYX'cb hY'fYUX]b[gZ'YW'fY'UbX'hi hcf]U'WcbhYbhfY'Yj Ubh'hc'hY'k YY_g'VY]b['UggYggYX'"Mci f'a Uf_'k]'VY fY'YUgYX'Uddfc]a UH'mcbY'k YY_'UZf'cb'A ccX'Yz'UbX'Z fhYf'ZYXVUW_'k]'VY' []j Yb']b'U'gi VgYei Ybh hi hcf]U'j]U'U' [YbYfU'X]gW gg]cb"

5ggYgga Ybh' . !WUgg'HYgh'

GHUfhXUH. 'K YY_-'

8YHJ]`g. '7cj Yfg'WcbhYbhZca 'k YY_g'&! ("H\Y'h'ghk]'Wcbg]ghcZ&\$'a i 'hd'Y!Wc]W'ei Ygh]cbg'VUgYX'cb hY'fYUX]b[gZ'YW'fY'UbX'hi hcf]U'WcbhYbhfY'Yj Ubh'hc'hY'k YY_g'VY]b['UggYggYX'"Mci f'a Uf_'k]'VY fY'YUgYX'Uddfc]a UH'mcbY'k YY_'UZf'cb'A ccX'Yz'UbX'Z fhYf'ZYXVUW_'k]'VY' []j Yb']b'U'gi VgYei Ybh hi hcf]U'j]U'U' [YbYfU'X]gW gg]cb"H\]g'g'hY'Z]bU'UggYgga YbhZcf'UH'bxUbW' di fdcgYg"

5ggYgga Ybh(. 7f]hWU'6]V'c[fUd\m

GHUfhXUH. 'K YY_`%\$

8YHJ]`g. 'Mci 'k]'XYj Y'cd'mci f'ck b'fYgYUfW'ei Ygh]cb'hc'Ubgk Yfz'cb'U'hd]WfY'UH'X'hc'cbY'cZ'hY'k YY_g]b'hY'W'ci fgY'"Mci f'W]hW'V]V'c[fUd\m]g'ci 'X'VY'gfi W'fYX'i g]b['hY'h'a d'UH'h'Uhk]'VY'dfcj]XYX'Zcf mci "H\Y'hcU'Yb[h'g'\$('\$\$'k cfxg!'mci 'g'ci 'X'i gY'*'gci fW'g'UbX'k f]h'&\$'k cfxg'Zcf'YUW'gci fW'Z U'cb['k]h'U'\$\$'k cfx'j]bfcXi W]cb'fk \Yf' mci 'k]'dfcj]XY'U'Vf]YZVUW_[fci bX'hc'hY'hd]WUbX'ghUH'mci f

fYgYUfWk 'ei YghcbE'UbX'U'%%\$!k cfX'WcbWi gjcb'fk \YfY'mci 'k]''fY]hYfUfY' hAY'Ubgk Yf'hc'mci f'ei Yghcb'UbX
dfcj]XY'U'Vf]YZgi a a UfmcZmci f'fYgYUfWkE''5''gci fWg'i gYX'a i ghVY'Zca 'Y]hAY'f'dYYf!fYj]Yk YX'ci fbU'g
cf'WkUdhYfg'Zca 'YX]hYX'Vcc_'Wc''YW]hcbg": YYXVUW_k]''VY'[]j Yb'hc'mci 'k]h']bX]j]Xi U'Wca a Ybfg'j]U
; fUXYa Uf'_cb'Hi fb]h]bž]b'UXX]hcb'hc'U'ei U']h]h]j Y' [fUX]b['fi Vf]W

Hi fb]h]b'gYh]b[. 'H\]g'Ugg][ba Ybh]g'gi Va]hYX'h'fci [\ 'Hi fb]h]b'UbX'ghi XYbfg'Xc' bchgYY'Hi fb]h]b
g]a]Uf]mifYdcfng"

5 hYbXUbW`F Yei]fYa Ybhg

Gh XYbhg`UFY`ghfcb[`mYbWci fU[YX`hc`UhhYbX`U`WUggYg`UbX`fYj]Yk ``YWhi fY`fYWc`fX]b[g"

7 ci fgY`GWXYXi `Y

[J\]Yk`WUgg`hja`YhUV`Y](#)

H]a`YhUV`Y`

8UhY	HmdY	7cbhYbh
K YY_`%`%` : YVfi Ufm!`&(` : YWfi Ufm %o		%o

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`ihk`]h`Hi`fb]h]b`mci`a`Um`Udd`mi`Zc`f`Ub`YI`HYbg]cb`z`Vi`hmc`i`
a`i`gh`fY`hU]b`mci`f`h]W`Yhbi`a`VYf`Zca`9I`HYfbU`Gi`ddcfhU`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[YgžUfhUbX`XYg][b`dfc`YWgžUg`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`Ub[]b[`U`ZYk `k cfXg`UbX`d`fUgYg`k \]Y`a cghmifYU]b]b[`hY`cf][]bU`
ghfi W`i 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'Wc'dmf][\hž' BGK 'Gh XYbh7cXY'cZ7cbXi W'Ubx'5W'W'dhUV'Y'I gY'cZ I BGK '⇒H'F'Ygci f'W'g'Dc`]W'h
- VY'Uk UfY'cZ'Y'ghUbxUfXg'cZVY\Uj]ci f'YI dY'W'X'cZYj Yfmcby']b'h'Y'I BGK 'W'a a i b]m
- 'cW'W'h'gYfj]W'g'UbX']bZ'fa U]cb'UVci hl BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZ'Y'gY'UfY'Ug'k]''VY'ZJa]]Uf'hc'mci ž'c'h'Y'fg'k]''VY'bYk "'; U]b]b['U'gc`]X'i bXYfghUbx]b['cZU''h'Y fY'UH'X'UgdY'W'g'cZ9@-G9'k]''\Y'd'mci 'a U_Y'h'Y'a cgh'cZ'mci f'gh X]Yg'Uhl BGK ""

[\h'hd.##gi V'Y'W'f'i \]X'Y'g"'\]VfUfm'i bgk "Y'X'i "U'i #' \]g'Y'#J'V'ci h' \]g'Y](#)

5 WUXYa]WbZcfa Uh]cb`

: cf`YggYbh]U`ghi XYbh]bZcfa Uh]cb`fY`Uh]b[`hc.

- fYei Ygh]Zc`fYI hYbg]cb/
- `UhY`gi Va]gg]cbg`[i]XY`]bYg/
- fYj]Yk `cZa Uf_g/
-