



ARTS1452

hfcXi Wc fm7 \]bYgY 'Zcf'6UW_[fci bX'GdYU_Yfg'5

HYfa 'Hk c''##'&\$&%

7ci fgY`Cj Yfj]Yk

GhJZ'7cbHJW`8YHJ]`g

7cbj Ybcfg

B Ua Y	9a U`	5j U]UV]]m	@cW]hcb	D\cbY
M]b[]`Gi b	m]b[]`gi b4 i bgk "YXi "Ui			

7ci fgY'8YHJ]`g

7fYX]hDc]bhtg`*`

Gi a a UfmicZ\hY'7ci fgY

H\]g]bhfciXi Wc fmi7 \]bYgY'Wci fgY]g'Zc'f'7 \]bYgY'VUW_[fci bX'gdYU_Yfg'k \c'fYWc[b]gY'Zk Yf'hUb') \$ 7 \]bYgY'WUfUWYfg" G hUfh]b['Zca 'D]bm]bzhY'cZ]W]U`d\cbYh]Wgmgh'a 'cZGhJbXUFX'7 \]bYgYzhY'Wci fgY \Y'dg'mci 'YghUV]g\ 'U'gmgh'a Uh]WYUfb]b['dUhYfb'UbX'XYj Y'cdg'mci f'Zci f'Ub[i U[Y'g_]`g'f]Y""]ghYb]b[ž gdYU_]b[ž fYUX]b['UbX'k f]h]b['E]b'Ub]bHY[fUH'X'a UbbYf'`h]bhfciXi W'g'mci 'Uddfcl]a UhY'm%) \$ j cWUVi 'Ufm k cfXgž'U'cb['k]h' hY'UggcW]UH'X'gcW]cW' h fU'UbX'`]b[i]gh]WUk UfYbYgg]b'XUmf'!XUmfcd]Mgžgi W'Ug [fYh]b[gž]bhfciXi W]b['cbYgY'Z'a U_]b['Ub'Uddc]bha YbhUbX'hU_]b['UVci hi b]j Yfg]m`]ZY"

7ci fgY'@YUfb]b['Ci hWca Yg

%' I bXYfghUbX'UbX'i gY'Uddfcl]a UhY'm%) \$ YggYbh]U'j cWUVi 'Ufm]h'a g" &" 5dd'm'hY'Zci f'Ub[i U[Y'g_]`g]b'7 \]bYgY'f]Y""]ghYb]b[ž gdYU_]b[ž fYUX]b['UbX'k f]h]b['E'Uh]bhfciXi Wc fmi`Yj Y'žhU_]b[]bhc'UWwci bhgh XYbhgf\Yf]hU[Y'VUW_[fci bX" ' " 7ca a i b]WUH'YZZYW]j Y'm]b'7 \]bYgY'cb'hd]Wg'gi W'Ug]bhfciXi W]b['cbYgY'Z'a U_]b['Ub Uddc]bha YbhUbX'hU_]b['UVci hi b]j Yfg]m`]ZYž]b'Vch'cfU'UbX'k f]hY'b'Zca gž]b'U'`]b[i]gh]WU'm'UbX gcW]cW' h fU'm'Uddfcd]f]UH'a UbbYf" (" 5dd'm]bXYdYbXYbh'YUfb]b['ghfUH[]Yg'hc]bWYUgY'7 \]bYgY'dfcZ]W]YbVh]VYmcB'X'hY'WUggfcca "

HYUW]b['GhfUH[]Yg`

H\]g`Ub[i U[Y'Wci fgY'fYei]fYg'ghi XYbhtg'hc'UH'YbX'`YWh' fYg'UbX'h'hc]f]U'g" H\Y'`YWh' fYg'Wc]j Yf'bYk j cWUVi 'Ufmž[fUa a Uh]WU'ghfi W'h' fYž'Yggcb'hYI hUbX'W' h fU'UbX'`]hYfUfmUk UfYbYgg" H\Y'h'hc]f]U'g'ZcW'g'cb]ghYb]b['UbX'gdYU_]b['YI YfW]gYg'Ug'k Y""Ug'fYUX]b['UbX'k f]h]b['hUg_g""6Yg]XYg'hY'WUggYgž'U'a]b]a i a 'cZ ('\ci fg'cZk YY_mgh]Xm]b['h'a Y'ci hg]XY'hY'WUggfcca]g'fYei]fYX']b'cfXYf'hc'cVh]b'U'gUh]ZUWc fmi 'YUfb]b['fYgi 'h'Gh' XYbhtg'UfY'YI dYWYX'hc'fYj]Yk 'YUW'`Yggcb'UbX'Z]b]g\ 'U""k cf_Vcc_'YI YfW]gYg'Ug'gccb UZfY'hY'k YY_m'WUggYg'Ug'dcgg]V'Y"";]j Yb'hUhYUW' bYk 'Yggcb]g'VUgYX'cb'U'`Wc'bhYbhWc]j YfYX dfYj]ci g'nž'gh' XYbhtg'g\ci 'X'bchdcghdcbY'hY]f'gh' X]Yg"

5g'Zc'fdUW]W]h'YUW]b[ž Vch'ghfi W'h' fU'a YhcX'UbX'Wca a i b]WUh] Y'a YhcX'k]""VY'Udd']YX']b'hY Wci fgY""`b'YUW'`Yggcb'gh' XYbhtg'k]""VY[]b'k]h' j cWUVi 'Ufm'UbX'ghfi W'h' fU'dfUW]W]Zc'`ck YX'Vm]hUg_]!VUgYX UW]j]hYg""7 cbg]XYf]b['h'Uh'hY'gh' XYbhtg'UfY'VUW_[fci bX'`YUfbYfgž'U'gi Vgh]b]h]U'`Ua ci bhczWUgg'k]""VY Wc'bx'WYX']b'7 \]bYgY" H\Y'h'YUW]b['gh]ZZk]""UX'gh'hY'Ua ci bhcz9b[]g\ 'UbX'7 \]bYgY' i gYX'UWw'c'fX]b[hc'gh' XYbhtg'`ZYXVUW_'UbX'bYXXg"

5ggYgga Ybh

5ggYgga YbhHUg_g

5ggYgga YbhHUg_	K Y][\h	8i Y'8UHŸ	Ghi XYbh@YUfb]b[Ci hWta Yg'5ggYggYX
F c`Y'D`Um	&\$i	(da `: f]XUmK YY_)	&ž' ž(
A]b]`HYgh	&) i	K YY_ ; '@YWi fY	%ž' &ž'
F YUX'5`ci X`	%) i	K YY_`%\$`Hi hc f]U`	%ž' &ž'
:]bU`9i Ua `	(\$i	:]bU`9i Ua `DYf]cX`fH65Ł	%ž' &ž'

5ggYgga Ybh8YHJ]`g

5ggYgga Ybh%`F c`Y'D`Um

GhUfhXUHŸ. Bch5dd`]WUV`Y

@Yb[h. `5ddfc] "" `a]bi hYg`dYf`dYfgcb

8YHJ]`g.

F c`Y!D`UmifYei]fYg`gh XYbhg`hc`i h]`gY`k \Uh`h`Ym`Uj Y`YUfbYX`]b`h`g`Wci fgY`UbX`h`Y]f`VUW_[fci bX
_bck`YX[Y`hc`XY] Y`cd`UbX`dYfZc`fa`Ub`]bhYfUW]j Y`gW`bUf]c`"F c`Y!D`Um]g`U`[fci d`k`cf`_f&`hc`" `dYcd`Y`]b
cbY`[fci d`z`UbX`) `hc`- `a]bi hYg`dYf`[fci dŁ/ZYXVUW_]g`dfcj]YX`k]h`fi V]Vg"

5XX]h]cbU`XYHJ]`g.

A cfY`XYHJ]`g`UfY`Uj U]`UV`Y`]b`h`Y`5ggYgga Ybh6f]YZcb`7ci fgY`A`ccX`Y`"

Gi Va]gg]cb`bchYg. `Cb`]bY`gi Va]gg]cb

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

5ggYgga Ybh&.`A]b]`HYgh

GhUfhXUHŸ. `K YY_ ; '@YWi fY

@Yb[h. `() `a]bi hYg

8YHJ]`g.

H\YfY`]g`Ub`]b!WUgg`a]b]`hYghf() `a]bi hYgŁž`k \]W`YI Ua]bYg`gh XYbhg`"ghYb]b[ž`fYUX]b[`UbX`k`f]h]b[`g_]`g
i bh`k \YfY`h`Y`Wci fgY`dfc[fYggYg"

5XX]h]cbU`XYHJ]`g.

A cfY`XYHJ]g`UFY`Uj U]UV`Y`]b`hLY`5ggYgga Ybh6f]YZcb`7 ci fgY`A ccX`Y`

Gi Va]gg]cb`bchYg. `Cb`]bY`Gi Va]gg]cb

Hi fb]h]b`gYH]b[. H\]g`Ugg][ba Ybh]g`gi Va]hYX`h`fci [\ `Hi fb]h]b`UbX`ghi XYbhg`Xc`bchgYY`Hi fb]h]b`g]a]Uf]mfYdcfrg"

5ggYgga Ybh' . F YUX`5`ci X

GHUfhXUH. `K YY`_%\$`Hi hcf]U`

@Yb[h. `5ddfcI`"" `a]bi hYg`dYf`dYfgcb

8YHJ]`g.

F YUX`5`ci X`fI `a]bi hYgE`YI Ua]bYg`ghi XYbhgfI7 \]bYgY`WUfUWYf`fYVc[b]h]cb`UbX`fYUX]b[``]hYfUWfI`

5XX]h]cbU`XYHJ]`g.

A cfY`XYHJ]g`UFY`Uj U]UV`Y`]b`hLY`5ggYgga Ybh6f]YZcb`7 ci fgY`A ccX`Y`"

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

5ggYgga Ybh(. :)bU`9I Ua

GHUfhXUH. :)bU`9I Ua `DYf]cX`fH65E

@Yb[h. `&`\ci fg

8YHJ]`g.

H\Y`Z]bU`YI Ua `]g`Vc`a dfY\Ybg]j Y`UbX`YI Ua]bYg`ghi XYbhgfI@gH`b]b[Z`F YUX]b[`UbX`K`f]h]b[`g_]`g`Vc]j YfYX`h`fci [\`ci`h`h\]g`Vc]i`fgY`" `h]g`gWYXi`YX`]b`hLY`Zc`fa`U`YI Ua]bU]cb`dYf]cX`fP&\$`a]bi hYgE`H\]g`]g`hLY`Z]bU`UggYgga YbhZc`f`UH`Y`bXUbW`di`fdcgYg"

5XX]h]cbU`XYHJ]`g.

A cfY`XYHJ]g`UFY`Uj U]UV`Y`]b`hLY`5ggYgga Ybh6f]YZcb`7 ci fgY`A ccX`Y`"

Gi Va]gg]cb`bchYg. `H65

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`

%": bH[fUHx'7\]bYgYžJ c`i a Y`%žHYI hVcc_ž(h`9X]hcb`fG]a d`]ZYXŁ

`f7 ca di `gcfnt

WcbHUVhAY hYUWx]b['hYUa]Zmc i fx''_Y'hc'dfcj]XY'UbmZYXVUW_UbX#cf'gi [[Ygh]cbg''''

Gi Va]gg]cb 'cZ5ggYgga YbhiHUg_g

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

Ʒmci 'YbWci bHYf'U'dfcV'Ya 'k \Yb'UH'Ya dh]b['hc'gi Va]hmc i f'Ugg][ba YbhiH'fci [\ 'Hi fb]h]bž'd'YUgY
HY'Yd\cbY'9I HYfbU'Gi ddcfhcb'-',) " ' ' %cf'Ya U] 'H'Ya 'cb'YI HYfbU'HY'fgi 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'm'YUfI" Ʒmci
UfY'i bUV'Y'hc'gi Va]hmc i f'Ugg][ba YbhiXi Y'hc'U'Zi 'hk]H'Hi fb]h]b'mci 'a UmUdd'm'Zc'f'Ub'YI HYbg]cbž'Vi hmc i
a i ghfYHU]b'mci f'h]W_Yhbi a VYf'Z'ca '9I HYfbU'Gi ddcfhfU'cb['k]H'UbmcH'Yf'fY'Yj UbhXcW a YbHgE'hc
]bWi XY'Ug'Yj]XYbVW'hc'gi ddcfhmc i f'YI HYbg]cb'Udd']W]h]cb" Ʒmci 'Ya U] '9I HYfbU'Gi ddcfhmc i 'k]
Ui 'ca UH]WU'm'fYW]j Y'U'h]W_Yhbi a VYfž'Vi h]Zmci 'HY'Yd\cbY'mci 'k]'b'YX'hc'gd'YW]WU'm'Ug_ 'Zc'f'cbY"
Hi fb]h]b 'U'gc'dfcj]XYg'i dXUH'g'cb'H'Y]f'gmgh'Ya 'ghU'hi g'cb'Hk]HYf"

; YbYfU'mž'UggYgga YbhiHUg_g'a i ghVY'gi Va]HYX'Y'YW'fcb]WU'mj]U'Y]H'Yf'Hi fb]h]b'cf'U'A ccX'Y
Ugg][ba YbH' 'b]bgHUbVW'g'k \YfY'H'lg]g'bc'hd'cgg]V'Yž'hk]'VY'gh'UH'X'cb'mci f'Wci fgY'g'A ccX'Y'g]H'k]H
U'HYfbUH] Y'gi Va]gg]cb'XYHU]g"

: cf]bZ'fa UH]cb'cb'\ck 'hc'gi Va]hUgg][ba YbHg'cb]bYj]U'A ccX'Y. \h'hdg.#gh XYbH'i bgk "YXi "Ui #ck!
gi Va]hUgg][ba YbH'a ccX'Y

5 WUXYa]W< cbYgmiUbX`D`U[]Uf]ga

D`U[]Uf]ga `]g`i`g]b[`h`Y`k`c`f`X`g`c`f`]X`Y`U`g`c`Z`c`h`Y`f`g`i`U`b`X`d`f`Y`g`Y`b`h]b[`h`Y`a` `U`g`m`c`i`f`c`k`b`" `#`W`U`b`h`U`_`Y`a` `U`b`m`
Z`c`f`a`g`Z`Z`c`a` `X`Y`]V`Y`f`U`h`Y` `W`X`Y`U`h]b[`h`c` `U`W`W`Y`X`Y`b`h`U` `m`i`W`c`d`m]b[`Z`c`a` `U`g`c`i`f`W` `k`]h`c`i`h`U`W`_`b`c`k` `Y`X[`Y`a` `Y`b`h`

I`B`G`K` `[`f`c`i`d`g`d`U[]Uf]ga `]b`h`c` `h`Y` `Z`c` `c`k`]b[`W`U`h`Y`[`c`f`]Y`g.

- i bXYfgHUbX'mci f'f][\hg'UbX'fYgdcbg]V]]hYg'Ug'U'gh XYbhUhl BGK
-

5 WUXYa]W]bZcfa Uh]cb

: cf`YggYbh]U`gh XYbh]bZcfa Uh]cb`fY`Uh]b[`tc.

- fYei Ygh]Zcf`YI H`bg]cb/
- `Uh`gi Va]gg]cbg`[i]XY`]bYg/
- fYj]Yk `cZa Uf_g/
- I B GK `<YU`h`UbX`GUZY`midc`]W]Yg/
- YI Ua]bUh]cb`dfcW`Xi fYg/
- gdYW]U`W`bg]XYfUh]cb`]b`h`Y`Yj Ybhcz]`bYgg`cf`a]gUXj Ybh fY/
- gh XYbhYei]m]UbX`X]gUV`]m/
- UbX`ch`Yf`YggYbh]U`UWUXYa]W]bZcfa Uh]cbz`gYY

[\ftdg.#k k k "Uftg"i bgk "YXi "Ui #W ffYbhgh XYbh\]UWUXYa \]W\]bZcfa Uh\]cb#dfchW`g`\[i \]XY`\]bYg#](#)

⇒ a U[Y`7 fYX]h