



ARTS2128

5 frž'5Wlj]ga ž'Di V`]Mg

HYfa `Hk c`#`&\$%

7 ci fgY`Cj Yfj]Yk

`GHUZZ`7 cbhUW`i8YHU]`g`

`7 cbj Ybcfg`

B Ua Y	9a U]`	5j U]`UV]`]m	@cWU]hcb	D\cbY
H\Yfcb`GWa]Xh	h'gVWa]Xh i bkg "YXi "Ui	8 fcd!]b`H\i fgXUmg %" \$!&" \$žcf`Vm Uddc]bha Ybh	K YVghYf`%&%	l)` &%

GW`cc``7 cbhUW`i`bZcfa Uh]cb

Fcca " %&ž`Yj Y`` `F cVYfhK YVghYf`6i]X]b[

D\cbY. f\$&Ł- ' ,) '(,) *

9a U]: [gUa 4 i bkg "YXi "Ui](#)

K YVg]hY: [\hfdg.#gUa "Ufmg"i bkg "YXi "Ui](#)

H\Y`GW`cc``cZ`hY`5fmg`UbX`A`YX]U`k`ci`X``_Y`h`F`YgdYW`v`m5W`bck`YX[`Y`h`Y`HfUX]hcbU``7`i`ghcX]Ubgž`h`Y`6YXY[`U`f`P`Ybg]b[`hcb`WJa`di`gŁž;`UX][`U`f`7`]m`UbX`5`f`h`i`8`Yg][`b`7`Ua`di`gYgŁ`UbX`h`Y`B`[`i`bbUk`U`dYcd`Y`f`Bi`ghfU]Ub`8`YZ`bVW`:`cfW`5`WUX`Ya`m]b`7`UbVYffUŁ`cZ`h`Y`UbXg`k`YfY`YUW`WJa`di`g`c`ZI`BGK`]g`c`WU`h`Y`X`"

7ci fgY'8YHJ]`g

7fYX]hDc]bHg`*`

Gi a a UfmicZ\hY'7ci fgY

Gi V'YWh5fYU. FZWSfdWS` V BWDad_ S` UWE fgV[W

5fhgh]WghfUH[]Yg`Uj Y`Ya Yf[YX`Ug`dck YfZ` `a YUbg`cZa U_]b[`gcWU`UbX`dc`h]WU`a YggU[Yg`YUfX`VmU
k]XYf`Ui X]YbWZ`UbX`ghfUH[]Yg`gi W`Ug`W`h`fY`Aa`a]b[žZUg`a`cVgZ[i Yff]`U`h`YUhfYž`UbX`cb`]bY
UW]j]ga`Uj Y`UX`Ub`ja dUW`UWfcgg`dc`h]WU`WUa`dU[]b[žgcWU`UXj`cWUW`ž`UbX`W`a`a`i`b]ma`cV]]gU]cb"
H\]g`W`i`fgY`k`j`]b]fcXi`W`mci`h`c`gca`Y`cZ\hY`_Ym\]g]cf]WU`XYj`Y`cda`YbHg`UbX`XYVUH`g`Ufci`bX`\ck`Ufh
\Ug`VYYb`i`gYX`h`c`]bgd]fY`W`Ub[Y`UbX`h`c`]b]fj`YbY`k`]h`]b`di`V`]WgdUW`"Mci`k`j`Uj`Y`h`Y`W`UbW`h`k`cf_
k`]h`mci`f`dYYfg`h`XYj`]gY`mci`f`ck`b`Zcfa`cZUW]j]ga`cf`W`a`a`i`b]m]Yb[U[Ya`YbhUfci`bX`Ub`]ggi`Y`cZmci`f
W`c]W`"H\]g`W`i`fgY`]g`dUfhcZ\hY`H`YUhfY`UbX`DYfZcfa`UbW`G`h`X]Yg`ghfYUa`" `hWUb`U`gc`VY`hU`_Yb`Ug`Ub
Y`YW]j`Y`]b`h`Y`6UW`Y`cf`cZA`YX]U`fDi`V`]WF`Y`U]cbg`UbX`5Xj`Yfh]g]b[E"

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

%` ÆYbh]zmg][b]Z]WUbha`ca`YbHg`UbX`XYVUH`g`]b`h`Y`XYj`Y`cda`YbhcZdi`V`]WUfh`UW]j]ga`ž`UbX`h`Y
dc`h]W`cZdi`V`]WgdUW`]b`h`Y`&\$h`UbX`&%ghW`bh`f]Yg`""
&"`5ggYgg`_Ym`h`Yc`fY`h]WU`W`bW`d]hg`Ug`k`Y`Ug`dfUW]WU`a`cXYg`cZUW]j]ga`UbX`di`V`]WUk`UfYbYgg!
fU]g]b[ž`UbX`Udd`mi`h`Ya`h`c`W`b]h`Ya`dcfUfm]ggi`Yg`""
'`" `K`cf`_`W`U`VcfUH]`Y`mk`]h`c`h`Yfg`]b`i`bXYfhU_]b[`fYgYUfW`UbX`dfYgYb]h]cb`cZ]bX]b[g`""

HYUW]b[`GhfUH[]Yg`

F`YUX]b[gžj]XYcgž`UbX`U`W`a`V]bU]cb`cZcb`]bY`UbX`ZUW`!h`!ZUW`Y`W`h`fYg`k`j`dfcj]XY`\]g]cf]WU`W`b]h]i`h
UbX`W]h]WU`h`Yfa`]bc`c[mZcf`i`bXYfg]UbX]b[`h`Y`j`Uf]ci`g`]b]h]ffY`U]cbg`VYh`YYb`Ufh]UbX`UW]j]ga`"5`Z]ddYX
a`cXY`cZ`h`h`cf]U`g`k`j`gi`ddcf]gh`XYbh`YX`Yb[U[Ya`Ybhk`]h`]ggi`Yg`UbX`W]gY`gh`X]Yg`cZ\hY]f`ck`b
W`ccg]b[ž`YUX]b[`h`k`UfX`h`Y`XYj`Y`cda`YbhcZ\hY`Z]bU`[fci`d`dfc`Y`W`h`U`h`XYj`]gYg`U`k`Um]h`a`cV]]gY`di`V`]W
Uk`UfYbYgg`Ufci`bX`U`W`ffYbh]ggi`Y`"

5ggYgga Ybh

5ggYgga YbhHUg_g`

5ggYgga YbhHUg_	K Y][\h	8i Y'8UH	Gh XYbh@YUfb]b[Ci hWta Yg'5ggYggYX
7`Ugg'6`c[`	' \$i	Bch5dd`]WUVY	%ž&
7 UgY`Gh Xm	(\$i	&* # \$ + # & \$ % - ` \$) . \$ \$ ` DA	%ž&
; fci d`dfc`YWh	' \$i	% # \$, # & \$ % - ` \$) . \$ \$ ` DA	&ž

5ggYgga Ybh8YHU]`g

5ggYgga Ybh%`7`Ugg'6`c[

GHUfhXUH.

8YHU]`g. `7 cbhf]Vi h`k YY_m]b`k YY_g`%) `hc`WUgg`V`c[žVUgYX`cb`Ugg][bYX`HUg_g`"5ggYggYX`Vmfi Vf]W

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

H\YgY`k]`VY`g\c`fhfYgdcbgYg`hc`dfca`dhg`Zca`cb`]bY`a`UHf]U`g`cf`\UbXg!cb`HUg_g`i`bXYftU`Yb`ci`hg]XY`cZ`WUgg`Xi`f]b[`k`YY_g`%)`"H\Ymk]`VY`Xi`Y`Vm`h`Y`gd`Y`W`Z`Y`X`h`a`Y`Yj`Y`fmk`YY`_`ž`k`]h`d`YbU`m`Z`c`f`U`H`Y`b`Y`gg`"

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

5ggYgga Ybh&`7 UgY`Gh Xm

GHUfhXUH.

@Yb[h. %&\$!%) \$ \$ `k`cfXg

8YHU]`g. `Mci`UFY`Ug_YX`hc`XYa`cbghfUH`Uddfcdf]UH`mgY`Y`W`X`h`Y`cf]Yg`UbX`W`c`b`W`dhg`Zca`h`Y`W`c`i`fgY`]b`fY`U`h]cb`hc`Ub`]b`XYdYb`XYbhmfYgYUfW`YX`W`UgY`gh`Xm`&%)`\$!%)`\$ \$ `k`cfXg":`YYXVUW`_`j`]U`Hi`fb]h]b`"

Hi fb]h]b`gYH]b[. H\]g`Ugg][ba Ybh]g`gi`Va`]H`Y`X`h`fci`[\`Hi`fb]h]b`UbX`gh`XYb`hg`W`Ub`g`Y`Y`Hi`fb]h]b`g)a`]Uf]m`fYdcf`g`"

5ggYgga Ybh' . ; fci d`dfc`YWh

GHUfhXUH.

8YHU]`g. `K`cf`_]`b`ga`U``[`fci`dg`hc`XYj`]gY`U`Z`c`fa`c`Z`U`W`h]`]ga`ž`d`Y`f`Z`c`fa`Ub`W`ž`c`f`a`c`V`]n`U`h]cb`"H\]g`U`W`h]cb`a`Um`f`Ya`U`]b`W`c`b`W`dh`U`Vi`hg`l`ci`X`V`Y`X`Y`H`U`]`Y`X`]b`]hg`d`Ub`Z`c`f`Y`I`Y`W`h]cb`ž`Ub`X`g`l`ci`X`V`Y`V`U`g`Y`X`cb`V`c`h`d`f]a`U`fm`Ub`X`g`Y`W`c`b`X`U`f`m`f`Y`g`Y`U`f`W`]b`hc`U`W`c`b`h`Y`a`dc`f`U`f`m]gg`i`Y``9`U`W`X`[`fci`d`k`]`d`fc`Xi`W`U`Z`c`fa`c`Z`X`c`W`a`Y`bh`h`U`h]g`Uddfcdf]UH`hc`h`Y`U`W`h]cb`9`U`W`X`gh`XYbhk`]`f`Y`W`]j`Y`k`f]h]b`Z`Y`X`V`U`W`_`cb`h`Y`c`j`Y`f`U``[`fci`d`dfc`Y`W`h]Ub`X`cb`"

F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

5`fYgci fWg`cb`C b`bY`F YUX]b[`@]ghUhi

[\hdg.##Jd\\$%U"U'a U"YI`\]Vf\]g\[fci d"Wca #Y\[Ubtc#di V`M#`% B.GK S-BGH#\]gh3Wci fgY7cXY1\)`-*S\\$-`\)/Ui
h1@C75@](#)

F YWca a YbXYX`F Ygci fWg

H\Y`di V`]W]h]cb`UbX`k YVg]hY`4WSgf[Xg^F dagT`Wz`UbX`h`Y`Zc`ck`!i`d`di V`]W]h]cb`4WSgf[Xg^D[e[`Yz`UfY`hYff]Z]W
fYgci fWg`hc`k`\]W`k`Y`k`]`fY`Z`f`g`Yj`YfU`h]a`Yg`"H\Y`Vcc_g]hcfY`g\ci`X`\Uj`Y`Wcd]Yg`c`Z`h`Y`di V`]W]h]cb.`

6cmXz5bXfYk`z`UbX`8Uj`Y`C`gk`U`X`A`]hWY`z`YXg"z4WSgf[Xg^F dagT`W`3`Faa`Taj`x`adD`Wha`g]fa``fBYk`Mcf_
UbX`@cbXcb.`C`#`6cc_gz`&\$%&t

5Vi`^UfUz`>i`a`Ubz5bXfYk`6cmXz8Uj`Y`C`gk`U`X`A`]hWY`z`UbX`A`UfW`"HUA`]bUhc`z`YXg"z4WSgf[Xg^D[e[`Y,
5dWsf]hWD`WefS`UWXa_`fZW9`^aTS^E`agfZ`fBYk`Mcf`UbX`@cbXcb.`C`#`6cc_gz`&\$%`t

5bX`h`Y`k`YVg]hY`g`UfY`O`[\hd.##YUihz`fci V`Y`cf\]_2`UbX`O`\[\hdg.##YUihz`f\\]g\\]b\\["cf\\]_#2\]\(#\)](#)

C`h`Y`f`f`Y`Wca a YbXYX`Wc`Y`W]cbg`cb`di V`]WUfhi`UbX`UW]j`]ga`.

8c\Yfmz7`U]fYzYX"zBgT`U`3d`/`@ai`f]A`gfaXF`_`W`A`gfaXB`SUW`[fcbXcb`f#6cc_gz`&\\$%`t](#)

:`Y`g`\]bzb]bUzYX"z4gf;e;f3d1`FZWE`b[df`aX3d`3e`3Uf]h[e_`fGYUhiY.`6Um

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

=j U'i Y'mci f'ZYXVUW_ 'UbX'k]''i gY'hY'a m9I dYf]YbW' 'Ubcbrā ci g'gi fj Ymž'Ug'k Y''Ug]b!WUgg'fYZYW]cbž'rc
]bž'fa '\ck '=g\UdY'ž hi fY'hYUW]b["

Gi Va]gg]cb`cZ5ggYgga YbhHUg_g

Gi Va]gg]cb`cZ5ggYgga YbhHUg_g

Hi fb]hb`Gi Va]gg]cb

Ʒmci`YbWci`bhYf`U`dfcV`Ya`k`Yb`U`H`Ya`dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybh`h`fci`[`\`Hi`fb]hb`z`d`YUgY`
H`Y`d`cbY`9I`H`fb`U`Gi`ddcfh`cb`-`,`)``%`cf`Ya`U]`h`Ya`cb`YI`H`fb`U`H`hgi`ddcfh`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`Ʒmci`
UfY`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybh`Xi`Y`hc`U`Z`U`h`k`]h`Hi`fb]hb`mci`a`Um`Udd`mi`Z`f`Ub`YI`H`bg]cb`z`Vi`hmc`i`
a`i`gh`f`Y`h]b`mci`f`h]W`Y`hbi`a`VY`f`Z`ca`9I`H`fb`U`Gi`ddcfh`f`U`cb[`k`]h`Ub`m`c`h`Y`f`f`Y`j`Ub`h`X`c`W`a`Y`b`h`g`L`hc`
]b`Wi`XY`Ug`Y`j`]X`Y`b`W`hc`gi`ddcfh`mci`f`YI`H`bg]cb`Udd`]W`h]cb`Ʒmci`Ya`U]`9I`H`fb`U`Gi`ddcfh`mci`k`]`
Ui`h`ca`U`h]W`m`f`Y`W`j`Y`U`h]W`Y`hbi`a`VY`f`z`Vi`h]Z`mci`H`Y`d`cb`Y`mci`k`]`b`Y`Y`X`hc`gd`Y`W`Z`W`m`Ug`_`Z`f`cb`Y`
Hi`fb]hb`U`gc`d`fcj`]X`Y`gi`d`X`U`H`g`cb`h`Y`f`g`m`g`h`Ya`g`h`U`h`g`cb`H`k`]h`Y`f`"

;`Yb`Y`f`U`m`z`Ugg`Y`gga`Y`bh`h`Ug`_`g`a`i`gh`V`Y`gi`Va`]h`Y`X`Y`Y`W`f`cb]W`m`j`]U`Y`]h`Y`f`Hi`fb]hb`cf`U`A`cc`X`Y`
Ugg][`ba`Y`bh`h`h`]b`g`h`U`b`W`g`k`Y`f`Y`h`l`g`]g`b`ch`id`c`g`g]V`Y`z`]h`k`]`V`Y`g`h`U`H`X`cb`mci`f`W`ci`fg`Y`g`A`cc`X`Y`g`]h`k`]h`
U`h`f`b`U`h]`Y`gi`Va`]gg]cb`X`Y`h]`g`"

:`cf`]b`Z`c`fa`U`h]cb`cb`\`ck`hc`gi`Va`]h`Ugg][`ba`Y`bh`g`cb`]b`Y`j`]U`A`cc`X`Y`.\`h`td`g`#`gh`X`Y`bh`i`bgk`"YXi`"Ui`#`ack`!
gi`Va`]h`Ugg][`ba`Y`bh`a`cc`X`Y`"

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

D`U[]Uf]ga `]g`i g]b[`h`Y`k cfXg`cf]XYUg`cZch`Yfg`UbX`dfYgYbh]b[`h`Ya `Ug`mci f`ck b" `h`WUb`hU`Y`a Ubm
Zcfa gž`Zca `XY`]VYfUHy`WXYUh]b[`h`c`UWV]XYbhU`mW`cdm]b[`Zca `U`gci fW`k]h`ci hUW_bck`YX[Ya Ybh`

I BGK `[fci dg`d`U[]Uf]ga `]bhc`h`Y`Zc`ck]b[`WUHy[cf]Yg.

7cdm]b[.`i`g]b[`h`Y`gUa Y`cf`j Yfmg]a]Uf`k cfXg`h`c`h`Y`cf][]bU`hYI hcf]XYU`k]h`ci hUW_bck`YX[]b[`h`Y
gci fW`cf`i`g]b[`ei`chU]cb`a Uf_g`"H\]g`U`gc`Udd`]Yg`h`c`]a U[Ygž`Ufh`UbX`XYg][b`dfc`YWgž`Ug`k Y`"Ug
dfYgYbhU]cbg`k \YfY`gca YcbY`dfYgYbh]g`Ubch`Yf`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`cghmiFYhU]b]b[`h`Y`cf][]bU`
ghfi`W`fY`UbX`#`f`dfc[fYgg]cb`cZ]XYUg`cZ`h`Y`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`Ubch`Yf`g`]XYUg`cf`k cfXg`k]h`ci hWYX]h`UbX`h`c

5 WXYa]WbZcfa Uhcb`

: cfYggYbhU`ghi XYbh]bZcfa Uhcb`fY`Uh]b[`rc.