



ARTS2821

7 c`cb]U`]ga . 'F Yg]ghUbVW ž`>i gh]VW ž`UbX`HfUbg]h]cb

HYfa`Cby`#`&\$&%

GWcc`cZGcWU`GWYbWg`#`I BGK`5ffg`UbX`GcWU`GWYbWg



7ci fgY`Cj Yfj JYk

GHJZZ7cbHJW`8YHJ`g

7cbj Ybcfg

B Ua Y	9a Uj`	5j Uj`UVj]jm	@cWJhcb	D\cbY
K j`7`Udrcb	k "WUdrcb4 i bgk "YXi "Ui	K YXbYgXUmž %%\$\$Ua `!`%&.\$\$da fcb`Ncca Ł`C H\Yf hja Yg`Vm Uddc]bha Ybh	F cca `%&(-' ,) ` `) +\$ A cfj Yb`6fck b	

Hi hcfg

B Ua Y	9a Uj`	5j Uj`UVj]jm	@cWJhcb	D\cbY
5bbjY`<Yffc	U"\Yffc4 i bgk "YXi "Ui			
5`YI UbXYf`<nbX	U"a jhWXY`S\mbX4 i bgk "YXi "Ui			

GWcc``7cbHJW`đZcfa Uhjcb

GWcc`cZGcWJU`GWYbWg

F cca `%) -

A cfj Yb`6fck b`7 &\$

Ya Uj`.gchg4 i bgk "YXi "Ui

d\cbY. `\$&`- ' ,) ` % \$+

7ci fgY'8YHJ]`g

7fYX]h'Dc]bHg '*`

Gi a a UfmicZ'h\Y'7ci fgY

7c`cb]gU]cb`]g`cbY`cZ'h\Y'a cfY`dYfj Ugj] Y`UbX`YbXi f]b[`gmghYa g`cZdck Yfz`_bck`YX[Yz`Xca]bU]cb`UbX
gi V↑ [U]cb`]bZcfa]b[`VcbhYa dcfUfmiDc`]h]Vg`UbX`ϕhYfbU]cbU`F`Y`U]cbg" `H\]g`Vci fgY`YbVci fU[Yg`mci `rc
fYZYVhi dcb`UbX`W]h]W`m]bhYffc[UH`h\Y`k Umg`]b`k` \]W`dfcW`ggYg`cZVc`cb]gU]cb`UbX`XY!Vc`cb]gU]cb
UZZYVhVcbhYa dcfUfmidc`]h]Vg`fYg]ghUbW`z`hfUbg]h]cbz`↑ gh]W`z`h\Y`[`cVU`c`fXYf`UbX`c`WU]gYX`UbX`[`cVU`
W\U`Yb[Yg" ϕ`h\]g`Vci fgY`mci `k`]`YUfb`UVci h\h\Y`Vc`fY`h\Ycf]Yg`z`VcbW`dHg`UbX`a`Yh`cXg`i`gYX`]b`fYgYUfW
cb`f`d`cg`h`Vc`cb]U`]ga`UbX`Udd`m`h\]g`_bck`YX[Y`rc`fYU`k`cfX`WUgYg"

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

5ggYgga Ybh

5ggYgga Ybhg\ci`X'VY'fYZfYbW'X'j'b'UWw'c'fXUbW'k'j'h'h'Y'GW'cc`'cZGcW]U'GWYbW'g'F'YZfYbW]b[
; i]XyZ'Uj U]UV`Y`cb`A ccX`Y"

⌘ DC F H5BH`H< ⌘; G`HC`BCH9.

Wf]hW`UbU`mg]g`cZhY`hcd]WUbx`UggcWUhx`]ggi Yg`i bXYf`Wcbg]XYfU]cbz`UbX`hY`XYj Y`cda YbhcZU
Wc`Yg]j Y`UbX`Wc`YfYbhUf[i a Ybh`

K \YhYf`mci `UfY`Wccg]b[`Zca `cbY`cZhY`gYhei Ygh]cbg`cf`Zcfa i `Uh]b[`mci f`ck bzd`YUgY`Ybgi fY`hUh
mci f`ei Ygh]cb`]g`]ghYX`Uh`hY`VY[]bb]b[`cZmci f`d`Ub`"

H\Y`YggUmd`Ub`k]`VY`fYei]fYX`h`ci h]bY`hY`Z`ck]b[.

]bWi X]b['k YY_!Vm k YY_ z fh\Yf'fYUX]b["'Mci 'k]''VY'UggYggYX'cb'mci f'UV']hmc'XYa cbgfhYh'fYgYUfW

K YY_ ; .) '5df]'!' - '5df]'		Dcgh7 c`cb]U`]ga `]b`H\YcfmUbX`DfUW]W
K YY_ - . %& '5df]'!' %* 5df]'	Hcd]W	<p>Dcgh7 c`cb]U`]mž6cX]YgžUbX`Gdcfh</p> <p>C b`]bY`@YUfb]b[`5W]j]]m`H\Y :]bU`E i UfhYf F Yj]Yk</p> <p>⊕`dfYdUfU]cb`Zcf`h.]g`hcd]Wžd`YUgY`k UH\`FZW8[S^ C gSdWdfUj U]UV`Y`j]U`h\Y`]]VfUfmk YVg]hY`E`df]cf`h` h\Y`YW]i fY`UbX`h`hcf]U`g`]b`K`YY_`-`UbX`k`f]h`U` '`\$!`k`cfX`fyj`]Yk`h`UhVf]YZmX]gW`ggYg`k`U`h\Y`Z`a` gUm]`UbX`fyj`YU`g`UVci`hfUW]žfUW]ga`ž`UbX`h\Y` YbXi`f]b[``Y[`UW]Yg`cZW`cb]U`]ga` `]b`5i`ghU`]U``Mci` Xc`bchbYXX`fY`ZYfYbW]gždfcj`]XX`mci`UfY`bch` W`dm]b[`UbX`#`f`d`Uf`Ud`\fUg]b[`a`UfYf]U`h`U`Yb`Zca` c`h`Yf`gci`fW]gž`UbX`h`]g`W]b`VY`k`f]hYb`W`cei`]U`m` Dcghmci`f`fYgdcbgY`]b`h\Y`fDcgh7 c`cb]U`]mž6cX]Ygž` UbX`Gdcff]b_]b`h\Y`8]gW`gg]cb` :`cfi`a`g``D`YUgY` dcghmci`f`fyj`]Yk`g`bc``UfYf`h`Ub`K`YXbYgXUmž%(5df]`Uh%%) - da ``</p> <p>D`YUgY`bchY`h`Uhk`Y`k`]`VY`X]gW`gg]b[`h\Y` XcW`a`YbUfmiUbX`mci`f`fyj`]Yk`g`]b`h\Y`h`hcf]U`g`Zcf` h.]g`hcd]W</p>
K YY_ %\$. %- '5df]'!' &		

F Ygci fWg

DfYgWf]VYX'F Ygci fWg'

H\YfY'jg'bc'dfYgWf]VYX'hYI h\cc_žcf'h'g'Wci fgY""5""cZhY'fYei]fYX'fYUX]b[gžUbX'a UbmicZhY
fYWca a YbXYX'fYUX]b[g'f]g'hYX'cb'A ccX'Yž'UfY'Uj U]UV'Y'cb']bY'j]U'hY""]VfUfmg'k YVg]h'cf'h'fci [\ 'hY
Wci fgY'A ccX'Y'g]h"

F YWca a YbXYX'F Ygci fWg

D'YUgY'gYY'A ccX'Y'žcf'U""fYei]fYX'UbX'fYWca a YbXYX'fYUX]b[g'UbX'UX]h'cbU'Wcb'h'bf'

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

Gh XYbhYj U'i Uh] Y'ZYXVUW_]g[U'hYfYX'dYf]cX]W""mi'g]b[žUa cb['chYf'a YUbgž'hY'I b]j Yfg]m'g
'A m9I dYf]YbWf]ZYXVUW_]dfcW'gg" 'žcf'a U'ZYXVUW_]UbX'ZYXVUW_]gdYW]Z]W'hc']bX]j]Xi U'hi'rcf]U'g'UbX
'YVh'fYg'UfY'U'gc']a dcf]U'bhž'UbX'k Y'Wca Y" Gh XYbhZYXVUW_]g'hU_Yb'gYf]ci g'miUbX'Wcb'h]bi U'
Yb\UbW'a Ybhg'UfY'a UXY'hc''YUfb]b['UbX'hYUW]b['UW'h]]hYg'cb'hY'VUg]g'cZgh XYbhZYXVUW_]": cf
YI Ua d'Yž]b'fYgdcbgY'hc'dUghZYXVUW_]ž'fYei]fYX'fYUX]b[g'žcf'gdYW]Z]W'hc'd]Wg'\Uj Y'VYYb'WU'Ub[YX'UbX
X]ZYfYbh'hc'd]Wg'\Uj Y'VYYb']bW' XYX'cf'U'h'fYX"

Gi Va]gg]cb 'cZ5ggYgga YbhiHUg_g

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

Ẓmci 'YbWci bHYf'U'dfcV'Ya 'k \Yb'UHYa 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'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'mYUfI" Ẓmci
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 UmiUdd'm'Zc'f'Ub'YI HYbg]cbž'Vi hmc i
a i ghfYH]b'mci f'h]W'Yhbi a VYf'Z'ca '9I HYfbU'Gi ddcfhfU'cb['k]H'Ubmich'Yf'fY'Yj UbhXcW a Yb'gk'hc
]bWi XY'Ug'Yj]XYbW'hc'gi ddcfhmc i f'YI HYbg]cb'Udd'j]W]h]cb" Ẓmci 'Ya U]'9I HYfbU'Gi ddcfhmc i 'k]`

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=Zcfa Uh]cb

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

- fYei Ygth]Zc`f`Yl H`bg]cb/
- `Uh`gi Va]gg]cbg`[i]XY`]bYg/
- fYj]Yk `cZa Uf_g/
-