



ARTS3360

D\]`cgc d\m7 Udghc bY. '9l Ua]b]b['D]j chU`HYl hg

HYfa `H\ fYY`##`&\$&\$

7ci fgY'8YHJ`g

7fYX]hDc]bhr '*`

Gi a a UfmicZ\hY'7ci fgY

h\Y'WldgrcbYz'mci`k`j`Wcbgc`XUH`mci`f`[fUgd`cZ\hY`X]gWd`]bY`cZd\]cgcd\mVmYI Ua`]b]b[`'U`d]`cHU`
hYI`h]b`hY`'\]grcfmfcZd\]cgcd\mihUhfUk`Y][` \g`]b`cb`hY`fY`U]cb`VYtk`YYb`hY`tk`c`a`U]b`ghfYUa`g`cZ\hY`
X]gWd`]bY`fa`]bX`#a`YhUd\mg]Wg`#d]ghYa`c`c`[`m]UbX`j`U`i`Y`h`Yc`f`n`/`UbX`fV`E`Ug`VYYb`Vfc`UX`m]bZi`YbhU`i`dcb`
WcbhYa`dcfUfmid\]cgcd\]WU`XYVUH`g`UbX`dfUW]W`g`"H\Y`gY`YWYX`hYI`hia`Umj`UfmZ`ca`gYa`YghY`f`tc`
gYa`YghY`fz`Vi`higca`Y`fYdfYgYbhU]j`Y`YI`Ua`d`Yg`k`ci`X`]bW]`XY`Gd]bcnU`g`7fZ`[Uež`<`i`a`Y`g`F`dMS`f`e`Wa`X`
:`g`_`S` `@Sfgd`V?`Ubhg`5`d`f`cg`Wa`XBgd`WD`W`Sea` `H\Y`gY`YWYX`hYI`hk`j`VY`YI`Ua`]bYX`k`]h`fYgd`Y`W`h`c`.]hg`
\]grcf]WU`WcbhYI`h`]hg`]bhY`[`f]m]Ug`U`i`b]Z]YX`UbX`gm]ghYa`Uh]Wk`cf`/_`hY`]bXYdYbXYbhdck`Yf`cZ]hg`Uf`[`i`a`Ybhg`/
hY`]a`d`]WU]h`cbg`cZ\hY`gY`Uf`[`i`a`Ybhg`Z`f`c`h`Y`f`Uf`Y`Ug`cZ\i`a`Ub]gh]W]bei`]fm`UbX`hY`YbXi`f]b[`]bZi`YbW`cZ`
hY`hYI`hcj`Yf`WcbhYa`dcfUfmXYVUH`g`UbX`d\]cgcd\]WU`dfUW]W`"H\Y`dfUW]WU`UddfYbh]W`g`d`cZ\hY`
gi`V`Y`W`h`k`j`VY`XYj`Y`cd`YX`Vm]bhfcXi`W]b[`gh`XYbhg`tc`hY`j`Uf]YmfcZ`fY`gY`Uf`W`dfUW]W`g`cZ\hY`X]gWd`]bY`UbX`
YbW`ci`fU`[`]b[`gh`XYbhg`tc`fYZYW`i`dcb`h`cgY`dfUW]W`g`]b`hY`XYj`Y`cda`YbhicZU`gi`ghU]bYX`UbX`]bhY`[`fUH`X`
fYgYUf`W`dfc`Y`W`i`Mci`k`j`fYZ]bY`mci`f`g`_`g`Z`f`Z`W`gYX`UbU`m]Wk`f]h]b[`h`U`h`k`j`gYfj`Y`mci`]b`U`f`Ub`[`Y`cZ`
Z`h`i`fY`W`U`fY`f`d`U`h`g`z`V`c`h`U`W`X`Y`a`]W`UbX`bcbl`U`W`X`Y`a`]W`

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

%`9I`d`U]b`hY`W`b`h`f`U`X`c`W`f]bYg`cZ\hY`gci`fW`hYI`hZ`f`hY`W`ci`fgY`
&`" `XYbh]Zmid\]cgcd\]WU`Uf`[`i`a`Ybhg`f]gc`Uh]b[`dfYa`]gYgž`]bZYfYbW`gž`UbX`WcbW]`g]cbE`]b`hY`gci`fW`
hYI`hž`UbX`Yj`U`i`UH`hY]f`gci`bXbYgg`
'`" `hYfdYfYh`hY`W`fY`WU]a`g`cZ\hY`gci`fW`hYI`hž`UbX`UggYgg`hY]f`VYUf]b[`cb`c`h`Y`f`Uf`Y`Ug`cZd\]cgcd\m`
UbX`\i`a`Ub]gh]W]bei`]fm`
(`" `8YVUH`hY`]bhYfdYfYh]cb`cZ\hY`gci`fW`hYI`hž`UbX`UddfU]gY`W`ca`dY]h]b[`]bhYfdYfYh]cbg`

5ggYgga Ybh

5ggYgga YbhHUg_g`

5ggYgga YbhHUg_	K Y][\h	8i Y'8UH	Gh XYbh@YUfb]b[Ci hWta Yg'5ggYggYX
Gh XmDUfthYf'8]gW gg]cb : cfi a 'Dcghg`	%\$i	Bch5dd`]WUV`Y	%&Z ž(ž)
7 f]h]WU`F YUX]b['9I YfW]gY`	' \$i	\$- #/\$#&\$&\$'%%\$\$'5A	%&Z ž(ž)
:]bU`9ggUm	* \$i	\$+#/#&\$&\$'%%\$\$'DA	%&Z ž(ž)

5ggYgga Ybh8YHU]`g

5ggYgga Ybh%`Gh XmDUfthYf'8]gW gg]cb : cfi a 'Dcghg`

GhUfhXUH. `Bch5dd`]WUV`Y

8YHU]`g.

Gh XYbthg`UfY`hc`a`YYhk`]h`U`gh`XmdUfthYf`Zj`Y`h`a`Yg`c`j`Yf`h`Y`W`i`fg`Y`c`Z`h`Y`h`fa``hc`X]gW`gg`h`Y`gci`fW`h`I`h`d`f`c`f`hc`ci`f`U`j`]b[`X]gW`ggYX`]hUg`U`WUggž`UbX`k`f]h`U`g`c`f`h`d`c`g`h`f`\$`hc`+`k`c`f`X`g`k`Z`c`f`h`Y`X]gW`gg]cb`Z`c`f`a`"

: cfYUW`X]gW`gg]cb`Z`c`f`a`'dcghž`V`ch`gh`XmdUfthYf`g`f`Y`W`j`Y`U`a`Uf`_`f`Y`U`W`d`c`g`h`c`i`h`c`Z`&`_`E`":`YYXVUW`_`j`]U`[`Y`b`Y`f`U`X]gW`gg]cb`UbX`f`Y`g`d`c`b`g`Y`g`c`b`h`Y`X]gW`gg]cb`Z`c`f`a`" `#X]j`]Xi`U`Z`Y`X`V`U`W`_`U`j`U]UV`Y`i`d`c`b`f`Y`e`i`Y`g`h`

5ggYgga Ybh&`7 f]h]WU`F YUX]b['9I YfW]gY

GhUfhXUH. `

8YHU]`g.

%&\$\$`k`c`f`X`Y`gg`Umž`W]h]W`m`Ub`U`mg]b[`Ub`Uf`[`i`a`Y`bh]b`h`Y`gci`fW`h`I`h`d`f`c`f`hc`ci`f`U`j`]b[`X]gW`ggYX`]hUg`U`WUggž`X`f`U`k`]b[`cb`k`U`h`g`h`XYbthg`U`j`Y`U`f`b`Y`X`g`c`Z`U`f`U`V`c`i`h`h`Y`h`I`h`

: YYXVUW`_`j`]U`]bX]j`]Xi`U`W`ta`a`Y`b`thg`UbX`U`a`Uf`_`"

Hi`fb]h]b`g`Y`h]b[`H\]g`U`gg][`ba`Y`bh]g`gi`Va`]h`Y`X`h`f`ci`[`\`Hi`fb]h]b`UbX`gh`XYbthg`Xc`b`ch`g`Y`Y`Hi`fb]h]b`g]a`]Uf]h`m`f`Y`d`c`f`h`g`"

5ggYgga Ybh' . :]bU`9ggUm

GhUfhXUH. `

8YHU]`g.

'`\$\$\$`k`c`f`X`g`"5`Z`W`g`Y`X`f`Y`g`Y`U`f`W`Y`gg`Um`c`b`U`h`c`d]W`c`Z`h`Y`gh`XYbthg`W`c`c`g]b[`ž`j`Y`h`Y`X`V`m`h`Y`]b`g`h`f`i`W`c`f`ž`

UXXfYgg]b['Ub']bHfdFYHj Y'di nn'Y']b'kY'gci fW' hI hUbX'XYa cbghfU]b['_bck`YX[Y'cZ]hg'fY`Yj UbW'hc
Wc bHYa dcfUfmXYVUH'g"Gh XYbHg'k]`U'gc'dfYgYbhkY'YggUm]b'U'k cf_g\cd'UhihY'YbX'cZkY'h'fa "

: YYXVUW_j]U'k f]H'Yb'Wca a YbHg'UbX'U'a Uf_"

Hi fb]H]b'gYH]b[. 'H\]g'Ugg][ba Ybh]g'gi Va]H'X'h'fci [\ 'Hi fb]H]b'UbX'ghi XYbHg'Xc'bcHgYY'Hi fb]H]b
g]a]Uf]mifYdcfHg"

5 HbXUbW F Yei]fYa Ybhg

D`YUgY`bcH`hUh`YWh`fY`fYWfX]b[g`UfY`bchUj`U]UV`Y`Zcf`h]g`Wci`fgY`"Gh`XYbhg`UfY`ghfcb[`mYbWci`fU[`YX`hc`Uhh`bX`U`WUggYg`UbX`WcbhUWh`hY`7`ci`fgY`5i`hcf]mhc`a`U`_Y`U`hYfbUhj`Y`UffUb[`Ya`Ybhg`Zcf`WUggYg`a`]ggYX"

7 ci fgY`GW`YXi` `Y`

[J \]yk`WUgg`ha`YhUV`Y`](#)

H]a`YhUV`Y`

8UH	HmdY	7cbhYbh
K`YY`_%`%(`GYdhYa`VYf! %`GYdhYa`VYf	GYa`]bUf	K`YXbYgXUm` b]fcXi`W]cb`Dc`fYUX]b[`Q` .
	GYa`]bUf	:`f]XUm` Hcd]W`5f]ghchY.`hY`ghfi`Wh`fY`cZ\i`a`Ub`UW]cbz` \Udd]bYggz`UbX`hY`\i`a`Ub`Z`bW]cb` F`YUX]b[`.`@[Ua`_`SUZWS`7`fZ[Ue`=%`+`
K`YY`_&.`&%GYdhYa`VYf! &)`GYdhYa`VYf	GYa`]bUf	K`YXbYgXUm` Hcd]W`A`YbW]`g.`<`i`a`Ub`bUh`fY`UbX`hY`\YUfhi`hUh` W]bbchVYUf`hc`gYY`gi`ZYf]b[` F`YUX]b[`.`?`W`U[ge`&5`*`z`+`/`5)`
	GYa`]bUf	:`f]XUm` Hcd]W`5f]ghchY.`<`Udd]bYggz]`]fh`Yz`UbX`chYf[`ccXg` F`YUX]b[`.`@7`=`,`-%`
K`YY`_`.`&`,`GYdhYa`VYf! &`C`WcVYf	GYa`]bUf	K`YXbYgXUm` Hcd]W`A`YbW]`g.`K`h`UhWc`a`Yg`bUh`fU`mhc`\i`a`Ub]m` F`YUX]b[`.`?`W`U[ge`*5`*`z`+`
	GYa`]bUf	:`f]XUm` Hcd]W`5f]ghchY.`<`Udd]bYggz]`]fh`Yz`UbX` WcbhYa`d`Uh]cb` F`YUX]b[`.`@7`L`"*`-`,`
K`YY`_(.)`C`WcVYf!`-` C`WcVYf	GYa`]bUf	K`YXbYgXUm` Hcd]W`A`YbW]`g.`@cg]b[`.`]h[`Yh]b[`hY`df]cf]h]Yg`f][`h`

F YUX]b[. ? W U[ge '5 ; !%\$

		YI HfbU` F YUX]b[. '9I WUj UHfX`hYI hg`Zca ; i cX]Ub
K YY_`%\$.`%*`Bcj Ya VYf! &\$`Bcj Ya VYf	GYa]bUf	K YXbYgXUm` Hcd]W`5f]ghchY.`GY`Z`cj Y F YUX]b[. '@7 𠄎
	GYa]bUf	: f]XUm F Yj]Yk `Qc`bYk `fYUX]b[Q

F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

5f]gfhYz@[Ua_ SUZWS` 7fZ[Ue" HfUbg`UHfX`VmHYfYbWf`fk]b"< UW_YfH`Qj U]UV`Y`Uhl`BGK`Vcc_gfhfYQ

? W U[ge" HfUbg`UHfX`Vm`fYbY`6`cca ""7c`i`a`V]U`l`b]j`Yfg]mDfYgg"Qj U]UV`Y`Uhl`BGK`Vcc_gfhfYQ

C hYf`fYei`]fYX`fYUX]b[g`Uj U]UV`Y`h`fci`[\`@Y[Ubhc`!!`cc`_`cb`A`ccX`Y`Zc`f`h`Y`"]b`_`hc`@Y[Ubhc"

F YWca a YbXYX`F Ygci fWg

GhUbZcfx`9bWmWcdYX]U`cZD\`]cgcd\mYbh]fYg.

5f]gfhY. [\`hfdg`##d`Uhc`ghUbZcfx`YXi`#`bhf\]Yg#Uf\]gfhY#](#)

5f]gfhYfj`Yh]Wj. [\`hfdg`##d`Uhc`ghUbZcfx`YXi`#`bhf\]Yg#Uf\]gfhY!Yh\]Wj#](#)

A YbWj`g. [\`hfdg`##d`Uhc`ghUbZcfx`YXi`#`bhf\]Yg#`a`YbWj`g#](#)

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

D`YUgY`Wca`Y`hU`_`hc`h`Y`W`e`i`fgY`W`e`b`j`Ybcf`UVci`hUbm]ggi`Yg`\Uj`]b[`_`hc`Xc`k`]h`_`W`e`i`fgY`UXa`]b]ghfUhc`b`z`UbX`VY`gi`fY`hc`Z`_`ci`h`m`e`i`f`A`m`9l`dYf]YbW`gi`fj`YmUh`h`Y`YbX`!!`U`_`Z`Y`X`V`U`W`_`]g`]b]ghf`i`a`Yb`hU`_`hc`X`Y`j`Y`c`d`]b[`_`UbX`]a`d`f`c`j`]b[`_`h`Y`W`e`i`fgY"

Gi Va]gg]cb`cZ5ggYgga YbhiHUg_g

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

≠mci`YbWci bHYf`U`dfcV`Ya`k` \Yb`UH`Ya` dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`h`fci`[`\`Hi`fb]h]b`z`d`Y`Ug`Y`
HY`Yd`cb`Y`9I`HY`fb`U`Gi`ddc`fh`cb`-`,`)`"``"``%`cf`Ya`U]`h`Ya`i`cb`YI`HY`fb`U`HY`hgi`ddc`fh`4`i`bgk`"YXi`"Ui`""Gi`ddc`fh`
`l`ci`fg`Uf`Y`,`.\$`\$Ua`-`-%`\$.\$`\$da`i`cb`k`YY`_X`Umg`U`b`X`-`.\$`\$Ua`-`-`).`.\$`\$da`i`cb`k`YY`_Y`b`X`g`f`l`*)`X`Umg`U`m`Y`U`f`l`"≠mci`
Uf`Y`i`b`U`V`Y`h`c`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`Xi`Y`h`c`U`Z`Ji`h`k`]h`Hi`fb]h]b`mci`i`a`Um`U`dd`m`Z`c`f`U`b`YI`HY`bg]cb`z`Vi`hmc`i`
a`i`gh`f`Y`h]b`mci`f`h]W`Y`h`bi`a`V`Y`f`Z`f`ca`9I`HY`fb`U`Gi`ddc`fh`f`U`cb[`k`]h`U`b`m`c`h`Y`f`f`Y`Y`U`b`h`X`c`W`a`Y`b`h`g`k`h`c`
]b`Wi`X`Y`U`g`Y`j`]X`Y`b`W`h`c`gi`ddc`fh`mci`f`YI`HY`bg]cb`U`dd`]W`h]cb`"≠mci`Ya`U]`9I`HY`fb`U`Gi`ddc`fh`mci`k`]`
Ui`h`ca`U`h]W`U`m`f`Y`W`]j`Y`U`h]W`Y`h`bi`a`V`Y`f`z`Vi`h]Z`mci`HY`Y`d`cb`Y`mci`k`]`b`Y`Y`X`h`c`g`d`Y`W`Z]W`U`m`U`g`_`Z`c`f`c`b`Y`"
Hi`fb]h]b`U`g`c`d`f`c`j`]X`Y`g`i`d`X`U`h`Y`g`c`b`h`Y`]f`g`m`g`h`Y`a`i`g`h`U`h`g`c`b`H`k`]h`Y`f`"

;`Y`b`Y`f`U`m`z`U`gg`Y`g`g`a`i`gh`V`Y`gi`Va`]h`Y`X`Y`Y`W`f`c`b]W`U`m`j`]U`Y`]h`Y`f`Hi`fb]h]b`c`f`U`A`cc`X`Y`
U`gg][`ba`Y`b`h`i`h`]b`g`h`U`b`W`g`k`Y`f`Y`h`l`g`]g`b`c`h`d`c`g`g]V`Y`z`]h`k`]`V`Y`g`h`U`h`X`c`b`mci`f`W`c`i`fg`Y`g`A`cc`X`Y`g`]h`k`]h`
U`h`Y`fb`U`h]`Y`gi`Va`]gg]cb`X`Y`h]g`"

:`c`f`]b`Z`c`f`a`U`h]c`b`c`b`l`c`k`h`c`gi`Va`]h`U`gg][`ba`Y`b`h`g`c`b`]b`Y`j`]U`A`cc`X`Y`.\`h`d`g`#`g`h`X`Y`b`h`i`bgk`"YXi`"Ui`#`c`k`!
gi`Va`]h`U`gg][`ba`Y`b`h`a`cc`X`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]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]h]Yg'Ug'U'gh XYbhUhl BGK
- VY'Uk UfY'cZd'U[]Uf]ga ž'Wcdmf][\hž' BGK 'Gh XYbh7cXY'cZ7cbXi W'Ubx'5Ww'dhUV'Y'I gY'cZ I BGK '⇒H'F Ygci fW'g'Dc`]Wm
- VY'Uk UfY'cZh'Y'ghUbxUfXg'cZVY\Uj]ci f'YI dYW'X'cZYj Yfmcby'j]b'h'Y'I BGK 'Wca a i b]m
- `cWJh'gYfj]Wg'UbX'j]bZcfa Uh]cb'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 ""

[\hhd.##ji V'YW'i \]XYg" \]VfUfm'i bgk "YXi "Ui #' \]gY#JVci h' \]gY](#)

