



LING5035

GYa Ubh]Vg'UbX'DfU[a Uh]Vg

HYfa 'H\fYY'##'&\$&\$

7ci fgY`Cj Yfj]Yk

GHJZ`7cbHJW`8YHJ]`g

7cbj Ybcfg

B Ua Y	9a U]	5j U]UV]]m	@cW]h]cb	D\cbY
8YVfU`5Ufcbg	X"UUfcbg4 i bgk "YXi "Ui	GYbX`Ya U]`h]`a U_Y Ub`cb`]bY Uddc]b]a Ybh	A cfj Yb`6fck b &) \$	7cbHJW]j]U Ya U]

7ci fgY'8YHJ`g

7fYX]hDc]bmg *`

Gi a a UfmicZh\Y'7ci fgY

h\]g`Wci fgY`mci `k]`YI d`cfY`h\Y`bUhi fY`UbX`gWc`dY`cZgYa Ubh]Wg`UbX`dfU[a Uh]Wg`UbX`h\Y]f`d`UW`k]h]b @]b[i]gh]Wg`Hcd]Wg]b`gYa Ubh]Wg]bW`XY. `h\Y`bUhi fY`UbX`UbU`mg]g`cZ`YI]WU`a YUb]b[gZ`h\Y`fY`Uh]cbg\]d VY`k YYb`a YUb]b[`UbX`Wc[b]h]cbZ`h\Y`fY`Uh]cbg\]d`VY`k YYb`gYa Ubh]Wg`UbX`[fUa`a UfZ`UbX`gYa Ubh]W W\Ub[Y`Hcd]Wg]b`dfU[a Uh]Wg]bW`XY. `gd`YYW\`UW`h\Y`c`fmZ`dc`]h`b`Y`gg`h\Y`c`fmZ`]a`d`]W`U`h` fY`UbX` dfY`gi`ddcg]h]cb`Mci `k]`Uj`Y`h\Y`c`ddcf`h`b]m]h`c`Y`b[U[Y`k]h`UbX`UbU`mgY`[Ybi]bY`]b[i]gh]WXU`U`Mci k]`Udd`m`h`Y`gY`]XY`U`g`b`ch`cb`m]h`c`9b[`]g`Z`Vi`h`h`c`h`h\Y`f`Ub[i U[Y`g`mci ` _bck "

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

%`8]gh]b[i]g`Ua`cb[`h\Y`Wc`bW`dfg`cZgY`bh`bW`a YUb]b[Z`i`h`Y`f`Ub`W`a YUb]b[`UbX`gdYU`_Yf`a YUb]b[&`5dd`miUdd`f`c`d`f]U`h`Y`X`Y`g`W`]d`h`j`Y`UbX`UbU`m]h`W`d`f`c`W`X`i`f`Y`g`h`c`h\Y`Z`Y`X`c`Z]bei]fmcZ`d`f`U[a Uh]Wg`UbX`]hg fY`Y`j`Ubh`Wc`bW`d`h`U`U`ggi`a`d`h]cbg`" " `5dd`miUdd`f`c`d`f]U`h`Y`X`Y`g`W`]d`h`j`Y`UbX`UbU`m]h`W`d`f`c`W`X`i`f`Y`g`h`c`h\Y`Z`Y`X`c`Z`YI]WU`Z`d`f`U`g`U`UbX`gY`bh`b`h]U`gYa`Ubh]Wg`" (" `5bU`mgY`]b[i]gh]WXU`U`UbX`Uf[i Y`h\Y`a`Y`f]hg`c`Z`h\Y`UbU`mg]g"

HYUW\]b[`GhfUH`[]Yg`

`H\]g`Wci fgY`]g`Ub`]bh`[fU`Wc`a`dcb`Y`bh`c`Z`h\Y`]b[i]gh]Wg`W`ff]W`i`a`" `h`c`f`X`Y`f`h`c`i`b`X`Y`f`g`h`UbX`h\Y`Wc`[b]h]j`Y` UbX`gc`W]U`X]a`Ybg]cbg`c`Z`Ub[i U[Y`]h]g`Y`gg`Y`bh]U`h`c`]bj`Y`gh[]U`h`h\Y`c`f[Ub]g]U`h]cb`c`Z`h\Y`gYa`Ubh]W`gm`gh`Y`a`Z` UbX`h\Y`bUhi`fY`c`Z`h\Y`d`f]b`W`d`Y`g`c`Z`d`f`U[a Uh]Wg`"````

`9UW`k`YY`_`h\Y`f`Y`k]`VY`U`h`c`!`ci`f`Y`W`h`f`Y`f`X`Y`g][`b`Y`X`h`c`Y`U`V`c`f`U`h`c`b`UbX`W`U`f]Z`m]b`Z`c`f`a`Uh]cb`]b`h\Y` Vcc`_`g`f`Y`Wc`a`a`Y`b`X`Y`X`Z`d`i`g`U`c`b`Y`!`ci`f`h`i`h`c`f]U`"Hi`h`c`f]U`g`k]`VY`a`U]b`m`X`Y`j`c`h`X`h`c`X]g`W`gg]b[`UbX` YI`d`U]b]b[`h\Y`Ub`gk`Y`fg`h`c`h\Y`YI`Y`f`W]g`Y`g`d`f`c`j`]Y`X`"````

5ggYgga Ybh

@YWh fYg'k]`VY'dfcj]XYX'UgmbWfcbci g`mžh.Uh]gžrci `k]`VY'UV'Y'fc ``]ghYb'cb!]bY'Uhih.Y'gWXYXi `YX

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

5ggYgga Ybh' . 7`Ugg`HYgh=UbX`&

GHUfhXUHy . Bch5dd`]WUVY

8YhU]`g.

- \$`a`]bi hYg`YUWX"" \$i` `YUWX" HYghg`Vcj Yf`VcbYbhdFYgYbhYX`]b`YWh`fYg`UbX`h`hcf]U`g"" K`f]hYb`UbX`cfU`
ZYXVUW_

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

H\YfY`UfY`&`]b!WUgg`hYghg" H\Y`Z]fgh]g`cb`%`#`\$`Uh%%`5A` `UbX`h`Y`gYWcbX`]g`cb`%&#`%`Uh%%`5A` "

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

5 hYbXUbW F Yei]fYa Ybhg

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

7 ci fgY'GWXYXi `Y

[J Yk WUgg'ha YhUVY](#)

Hja YhUV`Y`

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K YY_%`%(`GYdhYa VYf! %`GYdhYa VYf	@YWhi fY	A YUb]b[žH\ci [\hUbX`F YU`]m GUYXX`7 \UdhYfg`%UbX`&
	C b`]bY`5Wij]jm	Gh XYbhg`k UHW`Mci hi VY`j]XYcg`UbX`Wca d`YH UWij]hYg`cb`]bY
K YY_&.`&%GYdhYa VYf! &)`GYdhYa VYf	@YWhi fY	K cfX`A YUb]b[GUYXX`7 \UdhYf`
	Hi hc]jU`	GUYXX`7 \UdhYf`%UbX`&
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K YY_`.`&`,`GYdhYa VYf! &`C WcVYf	@YWhi fY	GUYXX`7 \UdhYf`(GYbhYbW`F Y`UH]cbg`UbX`Hfi h
	Hi hc]jU`	GUYXX`7 \UdhYf`
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K YY_(`.`) `C WcVYf!`- C WcVYf	@YWhi fY	GUYXX`7 \UdhYf`) 7`Ugg]Zn]b[`G]h Uh]cbg
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	C b`]bY`5Wij]jm	Gh XYbhg`k UHW`Mci hi VY`j]XYcg`UbX`Wca d`YH UWij]hYg`cb`]bY
K YY_)`.`%&`C WcVYf!`*` C WcVYf	Hi hc]jU`	GUYXX`7 \UdhYf`)
	C b`]bY`5Wij]jm	Gh XYbhg`k UHW`Mci hi VY`j]XYcg`UbX`Wca d`YH UWij]hYg`cb`]bY
	5ggYgga Ybh	7`Ugg`HYgh% Hja YX`hYghcb`]bY`Xi f]b[`h\Y`YWhi fY`dYf]cX
K YY_`*`.`%`C WcVYf!`&` C WcVYf	C b`]bY`5Wij]jm	Gh XYbhg`k UHW`Mci hi VY`j]XYcg`UbX`Wca d`YH UWij]hYg`cb`]bY
	@YWhi fY	GUYXX`7 \UdhYf`*` DUfh]W]dUbhg`]b`GYbhYbW`A YUb]b[
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K YY_ ; . : & ' Bcj Ya VYf! '* Bcj Ya VYf	@YWhi fy	GYYX:7 \UdhYf' + 7 cbhYI hUbX: ðZYfybVW
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K YY_- . :- ' Bcj Ya VYf! % ' Bcj Ya VYf	@YWhi fy	7 \Uda Ub'7 \UdhYf'' 'UbX'(7 `Ugg]W@]b[i]gh]WDFU[a Uh]Wg
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	5ggYgga Ybh	7 `Ugg'HYgh& H]a YX'hYghcb`]bY'Xi f]b['h\Y'`YWhi fy'dYf]cX
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K YY_%\$. %* ' Bcj Ya VYf! &\$' Bcj Ya VYf	@YWhi fy	7 \Uda Ub'7 \UdhYf') A cXYfb'DFU[a Uh]Wg
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6cc_-'GYa Ubh]Vg`f&\$%*Ł'GUYXž>"-€6B!% .- +, -%-('\$' --, *' %- 'MUF`&\$%*`9X]hcb`(`h`Di V`]g\Yf`K`]Ym
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F YWca a YbXYX`F Ygci fWg

H\YgY`k]`VY`gi dd`]YX`Ug`hY`hYfa`dfc[fYggYg

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

7ci fgYg`UfY`dYf]cX]WU`mifYj]Yk YX`UbX`gh`XYbhg`Z'YXVUW`_]g`i gYX`hc`]a`dfcj Y`hYa`": Y'YXVUW`_]g
[U`hYfYX`Z'ca`gh`XYbhg`i`g]b[`a`m9I`dYf]YbW`" `#i]g`YbW`i`fU[YX`hUhigh`XYbhg`W`ca`d`Yh`hY]f`gi`fj`Ymg`Vm
UWV`gg]b[`hY`dYfgcbU`]gYX`k`YV`"b`_j`]U`hY`A`ccX`Y`W`i`fgY`g]hY`"

Gi Va]gg]cb`cZ5ggYgga YbhiHUg_g

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Ʒmci`YbWci bHYf`U`dfcV`Ya`k` \Yb`UHYa` dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`YbhiHfci`[`\`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`f1`*)`XUmg`U`mY`Uf2`"Ʒmci`
UfY`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`YbhiXi`Y`hc`U`Zi`h`k`]h`Hi`fb]h]b`mci`a`UmUdd`m`Zc`f`Ub`YI`HYbg]cb`z`Vi`hmc`i`
a`i`ghfYhU]b`mci`f`h]W`Yhbi`a`VYf`Zca`9I`HYfbU`Gi`ddcfhU`cb[`k`]h`Ubmc`h`Yf`fY`Yj`UbhXcW`a`YbHg`L`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`hca`U]W]m`fYW]j`Y`U`h]W`Yhbi`a`VYf`z`Vi`h]Zmci`HY`Yd`cbY`mci`k`]`bYYX`hc`gdYW]Z]W]m`Ug`_`Zc`f`cbY`"
Hi`fb]h]b`U`gc`dfcj`]XYg`i`dXUH`g`cb`h`Y]f`gmgh`Ya`g`hU`h`g`cb`Hk`]hYf`"

;`YbYfU`mz`UggYgga`YbhiUg_g`a`i`ghVY`gi`Va`]hYX`Y`YWfcb]W]m`j`]U`Y]h`Yf`Hi`fb]h]b`cf`U`A`ccX`Y`
Ugg][`ba`Ybhi`h`]bg`hU`bVW`g`k` \YfY`h`g`]g`bchdcgg]V`Yz`]hk`]`VY`gh`UHYX`cb`mci`f`Wci`fgY`g`A`ccX`Y`g]h`k`]h`
U`HYfbU]h]`Y`gi`Va`]gg]cb`XYhU]g`"

:`cf]bZcfa`U]cb`cb`\ck`hc`gi`Va`]hUgg][`ba`Ybhi`cb]bY`j`]U`A`ccX`Y`. \hhdg`#gh`XYbhi`bgk`"YXi`"Ui`#ck`!
gi`Va`]hUgg][`ba`Ybhi`a`ccX`Y`"

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

D`U[]Uf]ga `]g`i]g]b[`h`Y`k`cfXg`cf]XYUg`cZc`h`Yfg`UbX`d`fYgYb]b[`h`Ya`Ug`mci`f`ck`b`" `h`W]b`hU`_Y`a`Ubm`Zc`fa`g`Z`ca`XY`]VYfU`h`V`X`YU]b[`h`c`U`W`X`Y`b`h`U`m`W`c`d`m]b[`Z`ca`U`g`ci`f`W`k`]h`ci`h`U`W`_`b`c`k`Y`X[`Y`a`Y`b`h`

I B G K ` [fci dg`d`U[]Uf]ga `]b`h`c`h`Y`Z`c`k`]b[`W`U`h` [cf]Yg.

7 cdm]b[. `i`g]b[`h`Y`g`U`a`Y`c`f`j`Y`f`m`g]a`]U`f`k`c`f`X`g`h`c`h`Y`c`f][]b`U`h`i`h`c`f`]X`Y`U`k`]h`ci`h`U`W`_`b`c`k`Y`X[]b[`h`Y`g`ci`f`W`c`f`i`g]b[`e`i`c`h`U`h`c`b`a`U`f`_`g`" `H`]g`U`g`c`U`d`d`]Y`g`h`c`]a`U[`Y`g`Z`U`f`h`U`b`X`X`Y`g][`b`d`f`c`Y`W`g`Z`U`g`k`Y`" `U`g`d`f`Y`g`Y`b`h`U`h`c`b`g`k` \ `Y`f`Y`g`c`a`Y`c`b`Y`d`f`Y`g`Y`b`h`U`b`c`h`Y`f`g`]X`Y`U`g`c`f`k`c`f`X`g`k`]h`ci`h`W`Y`X`]h`

~~h~~U`d`d`f`c`d`f]U`h`Y`d`U`f`U`d`f`U`g]b[. `7` \ `U`b[]b[`U`Z`Y`k`k`c`f`X`g`U`b`X`d`f`U`g`Y`g`k` \]Y`a`c`g`h`m`f`Y`h`U]b]b[`h`Y`c`f][]b`U`g`h`f`i`W`i`f`Y`U`b`X`#`c`f`d`f`c[`f`Y`g`g]c`b`c`Z]X`Y`U`g`c`Z`h`Y`c`f][]b`U`Z`U`b`X`]b`Z`c`fa`U`h`c`b`k`]h`ci`h`U`W`_`b`c`k`Y`X[`Y`a`Y`b`h`" `H`]g`U`g`c`U`d`d`]Y`g`]b`d`f`Y`g`Y`b`h`U`h`c`b`g`k` \ `Y`f`Y`g`c`a`Y`c`b`Y`d`U`f`U`d`f`U`g`Y`g`U`b`c`h`Y`f`g`]X`Y`U`g`c`f`k`c`f`X`g`k`]h`ci`h`W`Y`X`]h`U`b`X`h`c`d`]Y`W`]b[`h`c[`Y`h`Y`f`e`i`c`h`Y`g`U`b`X`d`U`f`U`d`f`U`g`Y`g`]b`h`c`U`b`Y`k`k` \ `c`Y`Z`k`]h`ci`h`U`d`d`f`c`d`f]U`h`Y`f`Y`Z`Y`f`Y`b`W]b["

7 c`i`g]c`b`k`c`f`_`b[`k`]h`c`h`Y`f`g`V`i`h`d`U`g]b[`c`Z`h`Y`k`c`f`_`U`g`U`d`Y`f`g`c`b`g`]b`X`]j`]X`i`U`k`c`f`_`" `7`c`i`g]c`b`U`g`c`]b`W`i`X`Y`g`d`f`c`j`]X]b[`m`c`i`f`k`c`f`_`h`c`U`b`c`h`Y`f`g`h`i`X`Y`b`h`V`Y`Z`c`f`Y`h`Y`X`i`Y`X`U`h`Y`Z`c`f`Z`c`f`h`Y`d`i`f`d`c`g`Y`c`Z`h`Y`a`d`U[]U`f`]g]b[`U`h`U`b`m`h`j`a`Y`Z`d`U`m]b[`U`b`c`h`Y`f`d`Y`f`g`c`b`h`c`d`Y`f`Z`c`fa`U`b`U`W`X`Y`a`]W`h`U`g`_`Z`g`h`Y`U`]b[`c`f`U`W`e`i`]f]b[`U`b`c`h`Y`f`d`Y`f`g`c`b`g`U`W`X`Y`a`]W`k`c`f`_`U`b`X`W`c`d`m]b[]h`Z`c`Z`Y`f]b[`h`c`W`e`a`d`Y`h`Y`U`b`c`h`Y`f`d`Y`f`g`c`b`g`k`c`f`_`c`f`g`Y`Y`_]b[

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- VY'Uk UfY'cZd'U[]Uf]ga ž'Wcdmf][\hž' BGK 'Gh XYbh7cXY'cZ7cbXi WñUbX'5WwdfUV'Y'I gY'cZ
I BGK '⇒H'F Ygci fW'g'Dc`]Wñ

5 WUXYa]W=Zcfa Uh]cb

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