



LS      S| EVE      I KER

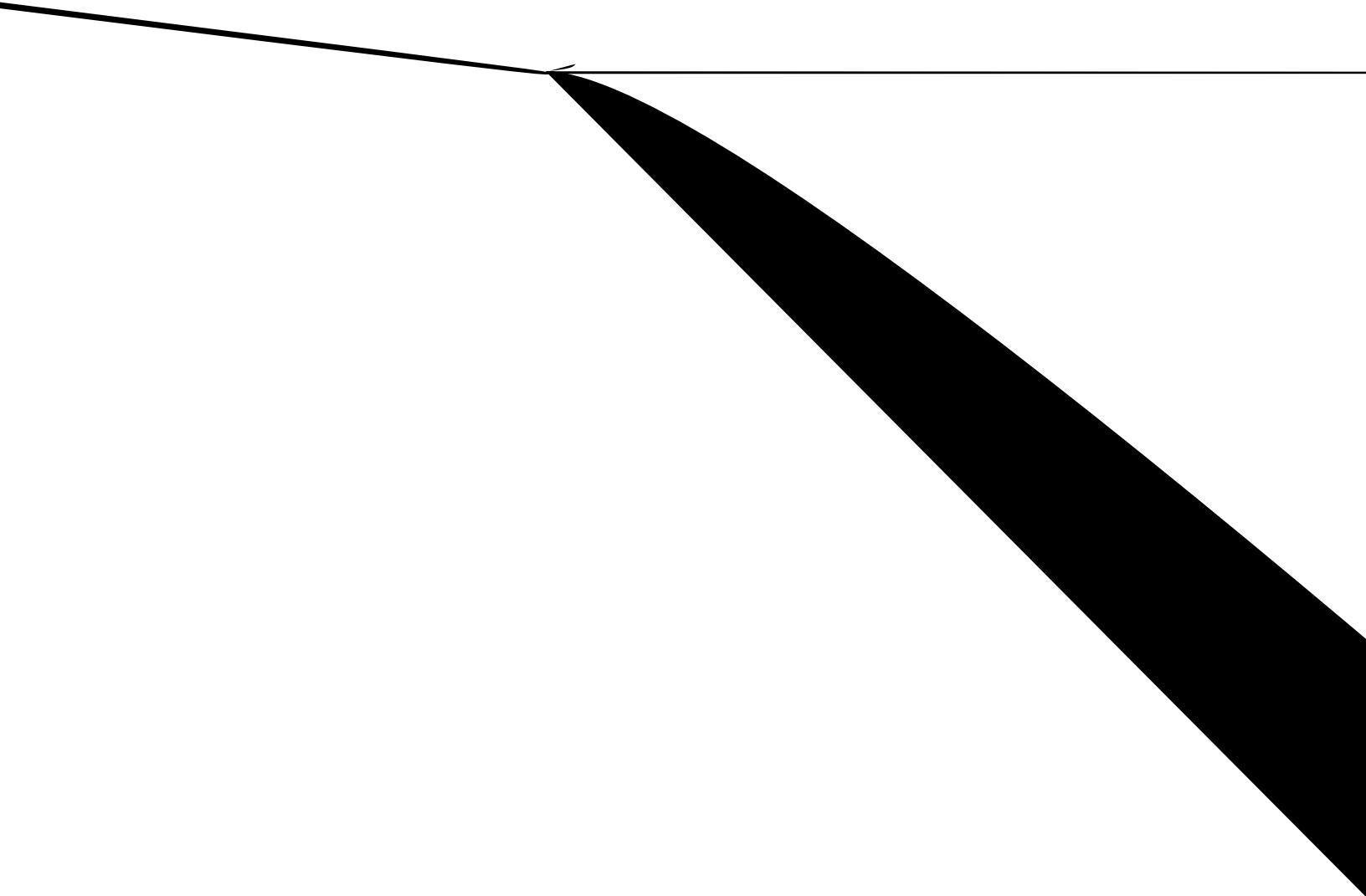
Ncp*i wci g'N E*







Y j cv<sup>v</sup>ku<sup>"</sup>c<sup>"</sup>o cp.  
Kj ku<sup>"</sup>ej kgh<sup>f</sup>i



f nc s  
Ind fBias s and rander s  
Ind



y g"gxqmkgf "cpf 'j g"gpxktqpo gpv'y g"hpkf "qwtugnxgu"kp"qfc{0Dw"j g"y qtnf "q  
y j kej "qwt"o kpf u"ctg"cf cr vgf "ku"pqv"lwuv"j g"Rngkunqe gpg"ucxcppcj 0'Ku"cp{  
pqpcecf go ke." pqpvej pqeQip

ngewtg" dwngv" r qkpu" nkng" öj g" i co dngt a" hcnce{ ö" cpf " ödcug/tcvg" pgi ngeö  
qlhgt gf " nkng" kuki j v" kpvq " luv" y g" gpk o cu" y cv" ctg" o cnkpi " j wo cp" kttc vqpcnkv  
uq" r t guukpi " cp" f \$q"

Tgkf " J cu\kg." P cyj cp" Mwpegn" Grngp" Ncpi gt." Lgppk\gt" Ngt pgt." Dgcw" Nqwq.  
Fcpkgn'N

W R ┄ I — L  
3

O cp"ku" c"tcv kqpcn"cpko cm0' Uq"cv"



Vj g"Ucp" f qpøv"lwan"r ki gqpj qng"cpko cnu"kpwl"ec



eqmge\kg"y gm/dgkpi "j cv'i qxgtp"cm"j gkt "tguqwtegu0'K'ku"wpj kpnedng"hqt "c  
Ucp"j wpvgt "pqv"q"u\_



cet

Vj g"cpuy gt"vq" y g"ugeqp" s vguw~~k~~qp"ku": "o k c

y j cv"j g"ur gcn̄gt "ku"cuñkpi . "dw"kp"j gug"gzco r ngu"ctg"f guki pgf "vq"ngcf "j g  
j gctgt "cun̄tc {0}\*Rgqr ng"fq"dgwgt "y j gp"j g"uo ctv j qpg"equwa."uc{."&95"o qtg  
j cp"j g"ecug"cpf "j g"eqo dkpcvqp"equwa"& ; 0<sup>3:</sup> "Dw"qh'eqwtug"t gcn̄hkbg"ku"cuñq  
dckgf "y kj "i ctf gp"r cvj u"cpf "ukt gp"uqpi u"j cv"mtg"wu"htqo "i qqf "f gekukqpu.  
cpf "t gukuñkpi "j go 'ku"c'r ctv'qh'dgkpi 'tcvñkqpcn0Rgqr ng'y j q"

qp"Octej "3"ítgy "kp"uweeguukxg'y ggmu"q"4."8."62."486.;" 23."cpf "3.94; "f gcý u  
r gt"



K'{"qwot g"nkng"o quv'r gqr ng."{qwuckf "öy g"nlkpi ö"qt "öy g"nlkpi "cpf "j g"f veno  
Vj g"eqttgev"cpuy gt "ku"öy g"nlkpi "cpf "j g"o qqugo"Y j {A"Gxgt {qpg"ci tggu"{"qw  
j cxg"q"wt\$p\$qpö

y j gp"c"tgnv\kxg"y cu"hpqg"chgt "j g{ "f tgc o v"uj g"j cf "c"o kj cr 0'Qt "j g{ "j kp m  
ko o ki tcpw"eqo o kv"c"nqv"qh"etko g"dgecwag"j g{ "tgcf "kp"j g"pgy u"cdqw"cp  
ko o ki tcpv"y j q"tqddgf "c"uvqtg."dw"f qpov"j kp m"cdqw"j g"ncti gt"pwo dgt"qh  
uvqtgu"tqddgf "d{ "pc\kxg/dqtp"ek\k gpo0

Eqphko c\kqp"dkcu"ku"c"eqo o qp"fkci pquku"hqt"j wo cp"hpqf "cpf "c"vcti gv"hqt  
gpj cpeki " tc\kqpcru"0' Hcpeku" Dceqp" \*378363848+." qhgp" etgf kqf" y kj  
f gxgnqr kpi "j g"uekgpog #

ugg'kh'ý g"ugpf gt "j cu'hqmqy gf "ý g"t wrg0J gtg"ctg'hqw"gpxgnqr gu0K ci kpg"ý



Vj g"O qpv\ "J cm'f k\go o c"dgeco g"hco qwu"kp"3; ; 2"y j gp"kv"y cu"r t gugp\gf  
kp"y g"oCum"O ct kn\pö"cn

Dw" ý g" o cpur nckpkpi " o cý go ckekcpu" y gtg" y tqpi " cpf " ý g" y qtnf øi  
uo ctvguv"y qo cp"y cu"tki j Ø'[ qw"uj qwnf "uy kæj



i quukr/hkngf "tci "cpf "dcpvgtgf "qp" ncl g"

ci ckpuv"j qtug"%4"

lwuv'hkr r gf "ncpf gf "j gcf u0'Hqt "{qw"kvu"0/0'Hqt "o g."kvu"3"\*Kr ggnf +0'Uco g  
gxgpv"fkhtgptgpv'nppqy ngt i g."fkhtgptgpv'r tqdcdkrv{0'kp'j g"O qphp" Uc o gâ

cmqy kpi "j ko "q "twp"j g"eqwpv { "htqo "j g"ukf gnkpgu0  
80O cuulkxg" uvtkngu" cpf " tkqwu" hqteg" P keqn' u" Ocf wtq" q" tguki p" cu  
r tgukf gpv"qh'Xgpg| vgn0  
90C"tgur ktcvqt { "xktwu"lwo r u"htqo "dcwu"q"j wo cpu"kp'Ej kpc"cpf "uwtwu"c  
pgy "cpf "gxgp"o qtg"ngyj cn'r cpf go ke"j cp"Eqxkf /3; 0  
: 0Chgt "Kcp"f gxgnqr u"c"pwengct"y gcr qp"cpf "guru"kv'kp"cp"wpf gti tqwpf  
gxr nqukqp." Ucwfk" Ctcdkc" f gxgnqr u" ku" qy p" pwengct" y gcr qp" kp  
tgur qpug0

Kr tguvgpf "kgo u"nkng"j gug"q"ugxgtcn"j wpftgf "tawg qy vg



xkxkf ."gur gekcm{ "y j gp"ý g{ "ur gm'qw"c"uvqt { "npg"y g"ecp"y cvej "kp"ý g"ý gcvgt  
qh'qwt'ko ci kpcvkqp

Nkpf c'ku"c"dcpm\gmgt0

Nkpf c'ku"cp'kpuwtcpeg"ucngur gt uqp0

Nkpf c'ku"c"dcpm\gmgt "cpf 'ku"ce\kxg"kp"j g'hgo kpkuv'o qxgo gp\0

Tgur qpf gpw\lwf i gf "j cv\kv"y cu"rnknkgt "j cv" Nkpf c"y cu"c"hgo kpkuv"ddk

Vj g"eqplwpe\kqp"tw

s wgu\kpuA" Vxgtum{ " cpf " Mcj pgo cp" kpukungf " ý cv" kv" kupo\0' Vj g{ " pqvgf " ý cv  
r gqr ng" eqo o kv" ý g" hcme{ " gxgp" y j gp" ý g{ " ctg" kpxkgf " vq" dgv" qp" ý g  
r quukdknkkgu"\*\{ gu."c"o clqtkv{ "r tghgt "vq" dgv" ý cv" Nkpf c "ku" c "hgo kpku\dcpm\vgmgt  
ý cp" ý cv" uj g"ku" c "dcpm\vgmgt +0' Cpf "gxgp" y j gp" ý g" s wgu\kqp"ku" eqwej gf "kp  
htgs wpekgu."y j gtg" r gqr ng" eqwrf "cxqkf "c" eqplwpe\kqp" gttqt "lww\ d{ "eqwp\kpi  
ý g"dcpm\vgmgtu"kp" ý gkt "o kpf \u{u} "g{ g."c" uwdu\cp\kcn" o kpqtkv{ "eqo o kv" k\0' Vj ku  
tkugu"vq" c "o clqtkv{ "y j gp" r gqr ng" eqp

ÿ gug" dtckpvgcugtu" t gxgcmô ÿ g" eqphkto ckqp" dkcu." ÿ g" qxgteqphkf gpeg." ÿ g  
f kntcevdkn

Wugf "d{ "r gto kuukqp"qh'Dgcw'Nqvq

Dw" ý g"y tqpi "vcnqcy c{"ku" ý cv" ý g"j wo cp" xkuwen" u{uqgo "ku" c" dwi i {  
eqptcr kqp"ý cv"eqpu\loc



g ej pqrqi { "j cxg"ý tknkpí n{ "gzvgpf gf 'ý g"r qy gtu"qh'ý g"xkuwcn'u{ ugo "dg{qpf  
y j cv"pcwtg"i cxg"wu0Y g"j cxg"o ketqueqr gu"hqt "ý g"uo cm "vngueqr gu"hqt "ý g  
f kucpv"r j qvqi tcr j { "hqt "ý g"r cuv"nki j vki "hqt "ý g"fc tm't go qvg"ugpukpi "hqt "ý g  
kpxku v"



ecppqv"gxgp"lwukh{"qt"tc\kpcn\ g"tgcuqp."Ky km'f ghgpf "ý g"o guuci g"qp"ý g  
o qucke<"y g"qwi j v\q"\lqmqy "tgcuqp0

Rea or fo Rea or

Vq" dgi kp" cv" ý g" dgi kppkp dg

Tfq'kgq"y cpw"lwkgv"cu"j g"hrkpi u"y cpv"j g"o ci pgv="cpf "kh"pq

ej kf t gpøu" cwj qt." cpf "kp" ý ku" ct vøeng." r wdnkj gf "kp" ý g" r j knquqr j {"lqwtpcn  
O kpf ."j g" ko ci kpgu" ý g" y cttkqt "ugcvgf "qp" ý g" vqt vqkugøu" dce m'cpf "t gur qpf kpi  
vq" ý g" vqt vqkugøu" guecn

t gnc\kxg0'Kl"vj cv"uv\go gpv"t gnc\kxg



y j q"cxqy "j cv"j g"twj u"qh"uekgpeg"ctg"o gtgn "j g"pcttcvxgu"qh"qpg"ewmtg  
y km'uvm'j cxg"j gkt"ej knf ou"kphgevqp"tgcvgf "y kj "cpvdkqveu"rtguetkdgf "d{ "c  
r j {ukekcp"tcj gt"xt "guetk

wpkxgtuk\guô\_ qf f n\ "gp, "

r t q h g u u q t " k p " V q o " U q r r c t f o i " r n c { "

Ukm "j g"ko r tguukqp"j cv'tgcuqp"ecp"qr r qug"j g"go qkqpO

tgr tqf wekqp. "y j kej "ctg"j g"hi wtc kxg"i qcni"qh"qw "i gpguô y j cv"j g{ "y qwf  
uc{ "j g{ "y cpvgf 'kh'j g{ "eqwf "cm<sup>35</sup>

Eqphkewu"dgw ggp"r tqzko cvg"cpf "wnko cvg"i qcni"r m{ "qw"kp"qw"nkxgu"cu



y y y @EctvqqpEqmgev\qpu@eqo

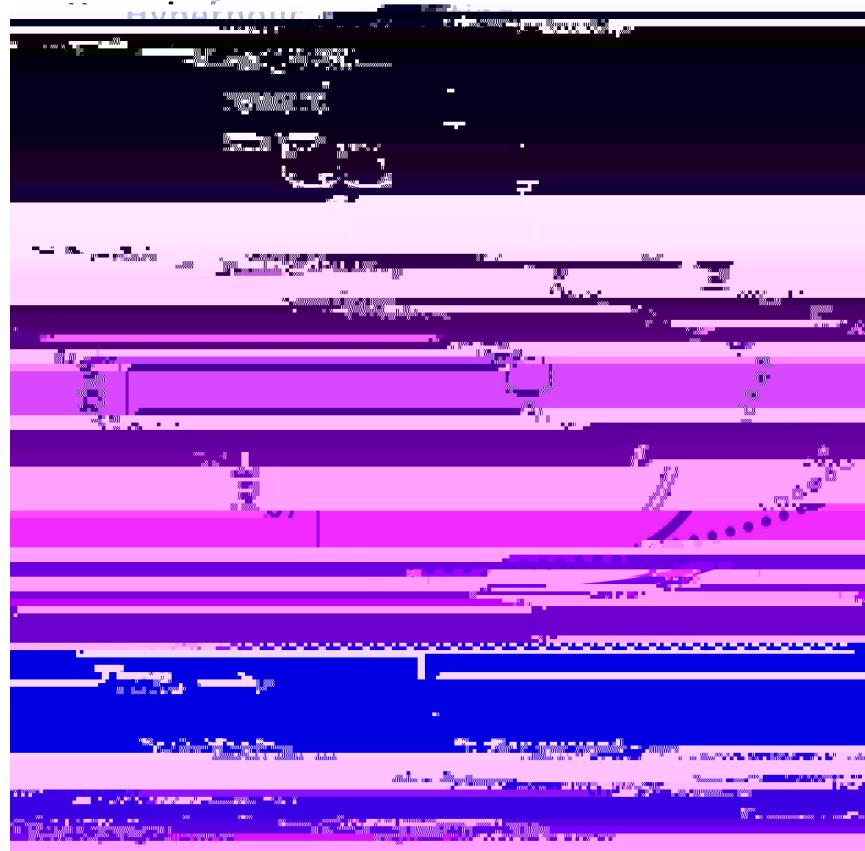
Vj gug"cti wo gpw"ctg"eqo dkpgf 'kp"c'uqt {0C"o cp'ku'ugpvgpegf 'q"dg"j cpi gf  
hqt "qlhgpf kpi "j g"uwncp."cpf "qlhggtu"c'f gc vφ."o"uwf "pdW



y j cv" ý g" hwtg" y km" dtkpi ." kperw kpi " cf xcpegu" kp" vgej pqmqi {." itqy u  
gxr qpgpvkcm{ "ý g" hctv j gt "qw" y g" r ncp0" \*Y j q" npqy uA" O c{ dg" y gom" vgcej "ý g  
j qtug" vq" ukpi 0" K' y qwf "j cxg" o cf g" hkwn" ugpub" hqt "qw" cpeguqtu" c" egpw{ "ci q  
vq" j cxg" uetko r gf "hqt "qw" dgphkô uK"

f kppgt "kp" hkggp "o





Vj qwj "

cpf "pgxgt

j wo cp"lwf i o gpv"gzr gt w"y qwf "gpi kpggt"y g"oej qkeg"ct"j

y g"tc\kqpcm{ "ej qqug"ki pqtcpeg"dg



pggf "y g"QM"htqo "{qwt"dcpm"cpf "y g"mqcp"qlhkegt"tghwugu"vq"ngpf "{qw"y cv  
o wej 0'Vj g"y kppgt"ku"y g"qpg"y j qug"j cpf u"ctg"kgf 0'Vj g"uco g"ecp"j cr r gp"kp  
htkgpf uj kr u"cpf "o cttkci gu"kp"y j kej "dqy "r ct vpgtu"y qwf "tcy gt "f q"uqo gy kpi  
vqi gy gt "y cp"uv { "j qo g."dw"f khgt"kp"y j cv"y g{ "o quv"tplq { 0'Vj g"r ct vpgt"y kj

c "htwknguu"pgi qvkcvkqp0'Kp"gxgt {f c {"nkhg."y g"ucpg



uqlhgpu" ý g" qlhgug. "dw" f qgupov" gnko kpcvg" k0' Rgqr ng" ctg" gs wcm{ "kpegpugf  
y j gp" cungf " y j gy gt" ý gtg" uj qwf " dg" uwdukf kf gf " o ctngw" hqt" lwt { " f w{.  
o krkct { "ugtxleg. "qt" ej krf tgp" r w" wr "hqt" cf qr vqp. "kf gcu" qeekukqpcm{ "dt wkgf  
d{ "pcwi j v{ "hkdgt vtkcp" geqpqo kruo<sup>58</sup>

Vcdqq" vcf gqlhu" gp"

ÿ g" y qo gp" kp" tgf/nki j v" f kntkev" ur gcm' qh" ugz" y qtngt\$

hkgpf uj kr ."qt"ekv



y kj "qj gt "r gqr ng."tcj gt "j cp"Tqdkpuqp"Et wuqg"qp"c"f gugtv"ku pf ."uq"qwt  
y gm/dgkpi "f gr gpf u"qp"y j cv"qj gtu"f q."nkng"j gn r kpi "wu"y j gp"y g"ctg"kp"pggf  
cpf "pqv"j cto kpi "wu'hqt"pq"i qqf "tgcuqp0

Vj ku"ej cpi gu"gx Q





5

R I L I K I

Vj ku"o qf gtp"v{r g"qh'y g"i gp... fgt "o  
eqtf kcrkv{"y



ctg'f kur wgu'co qpi 'r gtuqpu. "y g"ecp'uko r n{ 'uc { <Ngv'w*u*"ecrew*w*v*g*. "y kj qw'h*m*tj gt  
cf q."q'ugg"y j q'ku'tki j *θ*

[ qw'o c{ "j cxg"pq*k*egf "j cv"j tgg"egpw*k*gu"m*v*gt "y g"ll"y*q*cyqv l"qp { q*Ø*{r wgu"c*Ø*v "5*l*'v "gn*x*





uc{"cy cngØ"Y g"ct gpØ"uc kuhgf "q"lwf i g"j g"eqpf kkqpcn'cz

G " " "

---

---

---

$\frac{\bullet T}{Q}$

õVj g"xke~~k~~o "y cu"~~n~~l~~ng~~f "y kj "c"ngcf "r kr g"qt "c"ecpf ~~nguk~~e~~n~~õVj g"xke~~k~~o "y cu"~~pq~~v"~~n~~l~~ng~~f "y d

---

F qpcnf "Vtwo







Qpg"ecp"cnly c{u'o ckpvckp"c"dgrikgh'pq"o cwgt'y j cv'kv'ku."d{"uc{kpi 'yj cv"yj g"dwtf gp"qh'r tqqh  
ku" qp" yj qug" y j q" f kuci tgg0' Dgtvcpf " Twua

hme{"ku"ecmgf"cti wpi "cf"j qo kpgo ."

F cxlf "Ukr tguuIVj g'P gy "[ qtngt "Eqngev\qp IVj g'Ect\qqp"Dcpm

①

kpgtr tgkpi "i qcv"gpvtckn="j ku"fg

f c{." c" {qwj hwn" htkt" qh" i qqfn{" dgctkpi " cunhp

cungf "q"ko ci kpg"j go ugnxgu"cu"dqwpegtu"kp"c"dct "cpf "xgtkh{ "ðE'{





mqi ke"cpf "nry 0K"c "hgt vnk gf "qxwo "c "or gtuqpöA'F kf "Dkm'cpf "O qpkec "j cxg"öugzöA'K"c "ur qt v  
wkrkv{ "xgj keng"c "œct ö"qt "c "övt venöA"Vj g"hwgt "encuukhkecvqp'r w"\gpu"qh'o kmkqpu"qh'xgj kengu  
qp"Co gtkecp"tqcf u"j cv'o gv"nczgt "ucpf qc

ur ci j gwk" us wcuj " ku" r cuvc/nkng." cp{y kpi " o cf g" htqo " cpko cn" hguj " qt" hqwt" fqwj " ku  
dmcendlcmgf 0\*D{g/d{g."r k| c0-

Y j q. "{qw"o c{ "cum'r tqi tco o gf "kp'yj g"cm/ko r qt\cpv"eqppge\kqp"y gki j uA'Vj g"cpuy gt "ku  
pq"qpg=j g{ "ctg"ngctpgf 'ltqo "gxr gtlkgpeg

kv"eqwf "pgxgt"y qtm"dw"y kj "o k<sup>u</sup>rkqpu"qh'vtckpkpi "gzco r<sup>u</sup>on"

cy cngpkpi ö"y g"ctg"rkxkpi "j tqwi j ."y j kej "ku"i kxkpi "wu"j g"lktuv"ugtxkegcdng"r tqf wevi"hqt  
ur ggej "cpf "ko ci g"tgeqi pkkqp."s vguvqf/cpuy gtlpi ."tcpurckqp."cpf "qy gt "j wo cpnkng"hgcvu<sup>65</sup>

F ggr " ngctpkpi " pgw qtmu" qhgp" qwr gthqto " I QHCK \*i qqf " qrf / huj kpgf " ct vkkekcn  
kpvgmki gpegl."y j kej "gzgewgu'mqi ke/rkng"f gf wevkqpu"qp'lzv "

ý gkt'ko r nkev kqpuOEcm'kvU{ugo "4."



F KNDGTV" "4223" eqw'Cf co o2

ÿ gtg" kú" ktgf wekdng" tcpf qo pguu" kp" ý g" uwdcvqo ke" tgcm " qh" swcpwo  
o gej cpkeu."nknq"ý g"f gec { "qh'cp"cvqo ke"pwengwu"qt"ý g"qt"



2" vq" 3." {qwt" dgnkgh" ý cv" kv" y km" ncpf " gxgp?" Vj ku" etgf gpeg" guvko cvg" ku uqo gvko gu" ecmgf " ý g" Dc{gukcp" kpvgr tgvckqp" qh" r tqdcdknkv" \*c" dkv o kungcf kpi n{."cu'y g'm'ugg'kp'ý g"pgzv'ej cr vgt+0

Vj gp" ý gtg" ku" ý g" gxkf gpvkc'n" kpvgr tgvckqp<" ý g" f gi tgg" vq" y j kej " {qw dgnkgxg" ý g" kphqto cvkqp'r tgugpvgf "y cttcpw" ý g" eqpenvkqp0'Vj kpm'qh'c" eqwtv qh" ncy ." y j gtg" kp" lwf i kpi " ý g" r tqdcdknkv" ý cv" ý g" f ghgpf cpv" ku" i vkmv." {qw ki pqtg" kpcf o kuukdng" cpf "r tglwf kekcn" dcem tqwpf "kphqto cvkqp" cpf "eqpukf gt&

Nc{r gqr ng."qq."ecp"j cxg"tqwdng"y tcr rk"

ugeqpf "kpxkgu"wl"q"ko ci kpg"j ck w

j gwt kunkel<sup>32</sup>"Yg"wg"j g"tcpnlp "htqo "qwt"dtckp'u"ugctej "gpi kpgô j g"ko ci gu.  
cplu

ÿ g"tgcn'hi wtg."340"r gtegp\0Vj w



ÿ qwacpf "htqo "ecpegt." ctqwfp "ÿ g" uco g" pwo dgt" n~~k~~<sup>14</sup>ngf "d{" eqcn" go k~~u~~ukqpu  
gxgtyfcy0<sup>14</sup>

Cxckrdkrk



ÿ gug"t gce\kqpu"ku"eqo o qp npqy ngf i g"kp"ÿ g"\gej pkecn'ugpug"qh'uqo gy kpi "ÿ cv  
gxgt { qpg" npqy u" ÿ cv" gxgt { qpg" npqy u" ÿ cv" gxgt { qpg" npqy u<sup>4</sup>" Eqo o qp  
npqy ngf i g"ku"pgeguuct { "hqt "eqqtf kpc\kqp."kp"y j kej "ugxgtcn'r ct\kgu"cev"kp"ÿ g  
gxr gev\kqp" ÿ cv" p"

qw"eqi pkkxg"dkcugu"cpf "f kuvqtv"qw"





dq{u"cpf "ÿ g"qÿ gt "qpn{"i k n O'

ugeqpf 0E nct my cu't gngcugf "chgt "c" ugeqpf "cr r gcn" qp" f khgt gpv'i tqwpf u+." cpf

ÿ g"eqpxgtug"kuþ'v"tvg<"gxgpw"ÿ cv"ctg"ecwacm{"kuqncvgf "o c {"dg"uvckuþecm{  
f gr gpf gpvþ0'Vo

dgkpi "f ghkpgf "cu"r ctv

ÿ g"fkhhgtgpeg"cpf "eqphwag"qxgtncrrkpi "y kj "o wwwcm{ "gzenwukxg"gxgpwu."{qw  
ecp'í gv'etc| {"tguwmu0K ci kpg'ÿ g'y gcj gtecuvg "r tgf kekpi "c'07"ej cpeg"qh'tckp  
qk"Ucwtf c{."s "ct {"sf "\$ " {."s \$ nw i "sgw g"scpeg"

k'v'u" l<sub>wiv</sub>" ý g" r tqdcdknkv{" qh' C" " D" f kxkf gf " d{" ý g" r tqdcdknkv{" qh' D0  
P qpgý gnuu."k'v'u" ý g" uqwteg" qh' gpf nguu" eqphwukqpu."dnwpf gtu."cpf "r ctcf qzgu  
kp" t gcuqpkpi "cdqwu'r tqdcdknkv{" uct vki "y kj "ý g'"j cr nguu" hgmqy "kp" ý g" ZMEF  
ect vqqp" qp" ý g" hqmqy kpi "r ci g<sup>69</sup> J ku" gttqt" nkgu" kp" eqphwukpi " ý g" ukø r ng  
r tqdcdknkv{" qt "dcug t c vg" qh' nki j vpkpi "f gcý u."r tqd\*ut wemd{/ nki j vpkpi +"y kj  
ý g" eqpf k

pwo dgt "qh"qeewtgpegu"fkxkf gf "d{ "yj g"pwo dgt "qh"qr r qtwpkkgu0'Vj g"vqr "



r quukdkkkgu"r tqr gtn{."y g"i gv"I ktn/I ktn'\*qpg+"f kxkf gf "d{"]I ktn/I ktn'r nw  
I ktn'Dq{"r nw

j kwlqt {"qh'dcwg



Vj g"nghv" f kci tco "uj qy u"j g"r tqdcdrkv{"qh"C"i kxgp"D"\*j g"r tqdcdrkv{"qh"c  
hvvn'ceekf gpv'i kxgp"j cv'qpg"ku"cv'j qo g+=kv'ku"j g"ctgc"qh"j g"fc tmly gf i g" \*C  
"D+cu"c"r tqr qt\qp"qh'j g"dk "r cng"ekteng" \*D."dgkpi "cv'j qo g+. "y j kej "ku  
uo cm0'VKd5

pwo dgtu"nkng"yj g"qpgu"Ko gpwkqpgf "kp"cp

eqphwukqp" ku" uqo gyko gu" ecnqf " ý g" Vgzcu"

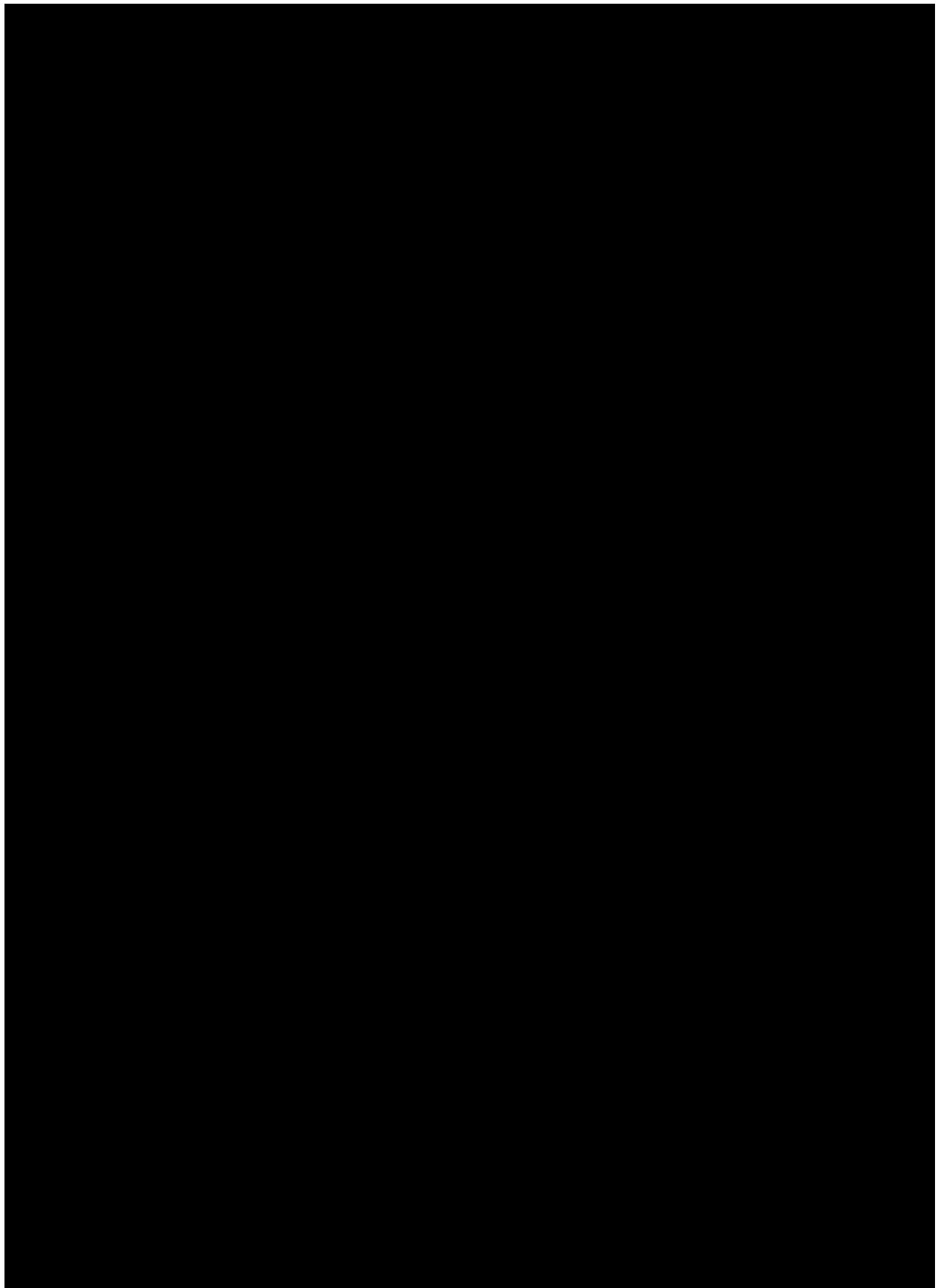
5"kp"60'Vj g"EPP O qpgy"j gcf nkpg"eqwf "j cxg"tgcf "G "37/[ "T  
H "Q <D "O "K" "N "Q 0'Uwtg"gpqwi j ."Okngt'u  
nem'tcp"qw."cpf "kp"y g"lqmqy kpi "y q" {gctu"y g"o ctngv"oj cpf kn{ "r wrxgtk gf  
j ko 0<sup>79</sup>

Qp"qr "qh'eqphkto c\qp"dkcu."c"o clqt"eqptkdwqt"q"r quv"j qe"r tqdcdkrkv  
hcmekgu"ku"qw"

qwt "uvckukkecm{ "wpwwqtgf "o kpf u"cr r tgekcvgOP qv"q "o gp\kqp"j g'hcev"j cv'y j gp  
ur qqm{ "eqkpekf gpegu"ctg"pq\kegf ."j g{ "vgpf "q"i gv"go dgmkj gf "\*Nkpeqnp"f kf  
pqv"j cxg"c

cpf "o gyj qf u"qp"c"r kgeg"qh'r cr gt "dghqt g"f qkpi "cp"gzr gt ko gpv"cpf "uchgngr "kv  
kp"c"mqendqz"yj g{ "y qwf "qr gp"cpf "uj qy "q"t gxkgy gtu"chgt "yj g"uwf {"y cu  
f qpg<sup>83</sup>"Vj g"qpn{ "r tqdn go ."j g"pqvgf ."y cu"yj cv"c"uekgpvku"eqwf "uge q"





7  
ELIEFS  
( ESI RE S I )  
D EVIDE E

Gzvtcqtfkpct { 'emcko u'tgoo

A



ej cr vgt0'Ecm'kv'r t

Rtqd\*Fcv "J {r qj guku+"ku"ecmgf "j g"nkgnkj qjf ØK"j g"y qtnf "qh"Dc{gu  
õkngnjk qjf ö"ku'pqv"c'u{pqp{o "hqt"ðr tqdcdkkv{.ö"dw"tghgtu"q"j qy "nkgn{k "kv'ku  
j cv"j g"fcv"y qwf "wtp"wr "kl"j g"j {r qj guku"ku"twgØ"Kuqo gqpg"fqgu"j cxg"j g  
f kugcug."j qy "nkgn{k "kv"j cv"j gs

Ugeqpf ."dgikgxg"j g"kf gc"o qt g"kh"j g"gxkf gpeg"ku"gur gekcm{ "hkngr{ "q"qeewt  
y j gp"j g"kf gc"ku"twgô pco gn{ "kh"kv"j cu"c"j li

Mcj pgo cp" cpf " Vxgtunf " ukpi ngf " qw" c" o clqt" kpgr vkwf g" kp" qw" Dc{gukcp  
tgcuqpkpi <"y g"pgi ngev"j g"dcug't cvg."y j kej "ku"wuwmf "j g"dguv"guuko cvg"qh'j g  
r tkqt"r tqdcdkrky<sup>0</sup>"kp"j g"o gf kecn'f kci pquku"r tqdn go ."qw"j gcfj

dcem" f qy p"\*y j kng" i kxkpi "yj g" f qeqt "c'r kgeg" qh" j gt "o kpf " cdqw" j

O kpf h<sub>w</sub>pguu"qh"dcug"tc\gu"ecp"dg"c"i k<sub>w</sub>qh"gs wcpko kv{ "cu"y g"t ghgev"qp"qw  
nkxgu0' P qy "

Vj ku"ku"y j {"kv"ku"tgcuqpcdng"vq"dg"ungr vecn"qh"encko u"hqt"o ktcengu.  
cuntqmqi {"j qo gqr cyj {"vgngr cyj {"cpf "qyj gt"r ctcpqto cn"r j gpqo gpc."gxgp  
q p



Ecttqm'kp"j ku"dqqm'Vj g'Dki 'Rkewtg."j cxg"gzr nckpgf "y j {"y g"ncy u"qh'r j {ukeu  
tgcm{ "f q"t wng"qw'r tgeqi pkkqp"cpf "qu p

hgwkxcm."cpf "ku"y j {"qp"Dc{gukcp"i tqwpf u'y g"uj qwf "f go cpf "gztcqtf kpct {  
gxc c u xckv f"



Vj ku"ku"j ctf n{ "uwtr tkukpi . "dw"kv"j cu"c"dmqf ewtf nkpi "ko r nkecvkqp0Uc{ "{qw  
uqwìj v" ý g" o quv" ceewtcvg" r quukdng" r tgf kevkqpqu g

Y j {"r m {"d {"j g"t wgu"y j gp"j g"u{u vgo "ku"i qkg

wukpi "dcug"tcvgu"htqf ghwinkpi "htqo "fkhgtgpv"pgki j dqtj qqfu"y cv'lwaw"j cr r gp  
q"eqttgnvg"y kj "

r tqdcdkv{ "qh'j cxkpi "r tqwcvg"ecpegt0Hqt "j g"r tkqt."uj qwf 'Kwag"j g"dcug"tcvg  
hqt "r tqwcvg"ecpegt "kp"j g"r qr wcvkqpA"Co qpi "y j kg"Co gtkecpuA"CuJ ngpc| k  
Lgy uA"CuJ ngpc| k'Lgy u"qxgt "ukzv\ /hkgA"CuJ ngpc| k'Lgy u"qxgt "ukzv\ /hkg"y j q  
gztekug"cpf "j cxg"pq "hco kn{ "j kwt { A"Vj gug"tcvguÂg "

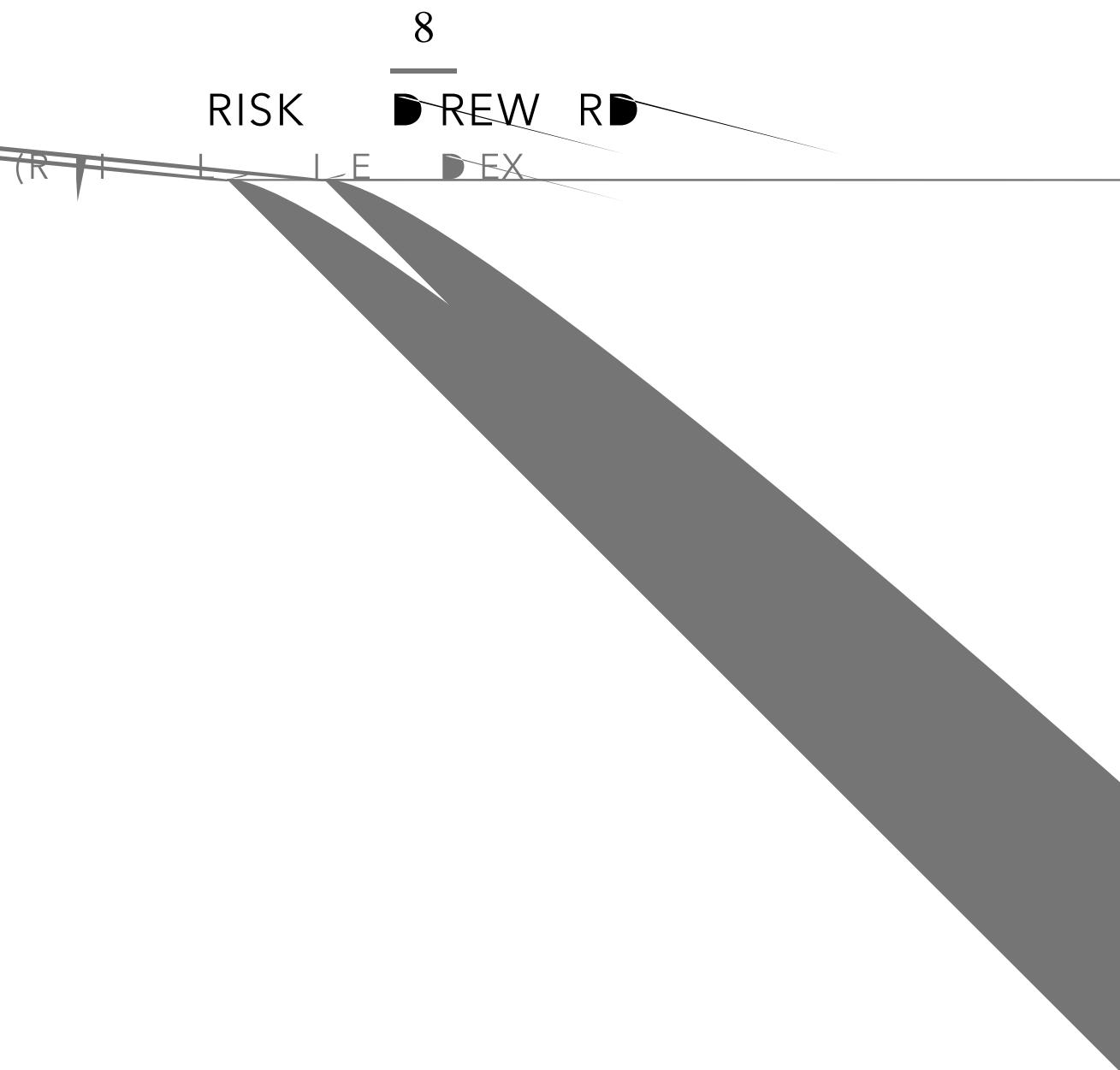
Cnq."c"dcug"tcvg"o c{"dg"tgcvgf "cu"c"r tkqt"qpn{"y j gp"j g"gzco r ngu"cv  
j cpf "ctg"tcpf qo n"uco rngf "ltqo "j cv'r qr wcvkqp0'KOj

Ngwū"i q"dcem'vq"y g'o gf kecn'f kci pquku'r tqdngo "htqo "y g"dgi kppkpi "qh'y g  
ej cr vgt"cpf "tcpurvg"y qug"o gcrj {ukecn'htce\kpu"kpq"eqpe| t "htpkug





S



ecnewcvg" rtqdcdkkkgu" cpf " wrkkkgu" dghqtg" f gekf kpi " y j gy gt" vq" hcm" kp" mxg0  
F kueqxgtkgu'ltqo "j g'r u{ej qm{ { "cd"uj qy kpi "j cv'r gqr ng"uggo "q" xkqmvg"j g"j gqt {  
j cxg"dgfp"vqwgf "cu"wpf



wpn̄pqy puô ̄y g"qp



ecukpq"kp"j g"lk uv'r nceg."r t guwo cdn{ "qwr nceg"uqo g"r qukkxg"wlkly{ "qp"j g"i mo qt  
qh'O qpvg"Ectm"cpf "

kpvgt pcn'ugpuc \kpu"qh"j cr r kpguu."i tggf ."nwiv"y cto "i mqy ."cpf "qj gt "r cuukppu0\lj kpi u  
dgeqo g'kpvt gu\kpi "y j gp'y g"gr mqtg"j g't gnc \kpuj kr ."uvt\kpi "y kj "j g'o quo \qt

Geqpqo kuu"gs wcvg"c"eqpecxg"wklnk\{"ewtxg'y

wprkng"c"f ko lpkuj kpi "f qmct."y cu"c"tgcn'r gtuqp."c"ugpvkgpv"dgkpi "y j q"mxgf "cpf "y cu mxgf 0'kp "*The Better Angels of Our Nature*, "Kuwi i guugf "j cv"qwt"o qtcn{ "o kui wkf gf ugpug"qh"j g"f ko lpkuj kpi "o cti kpcn'wkrkv{ "qh"j wo cp"nkxgu"ku"c"tgcuqp"y j { "uo cm'y ctu etcp"guecnr| ."

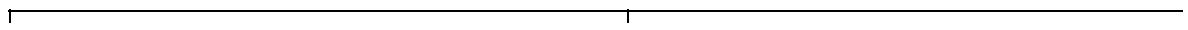
ÿ g'Eqpuqrkf c\kqp"czkqo 0'

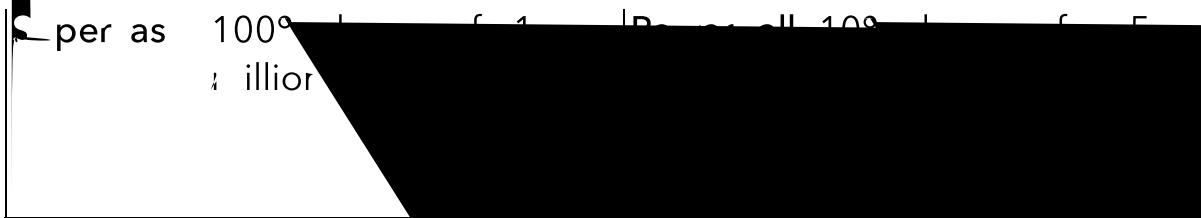
---

---

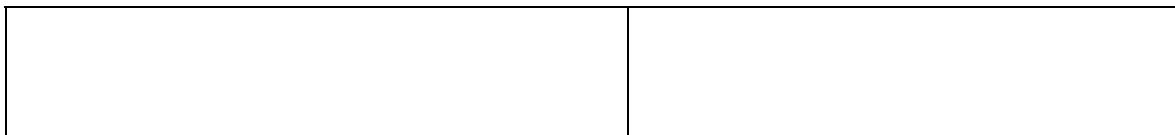
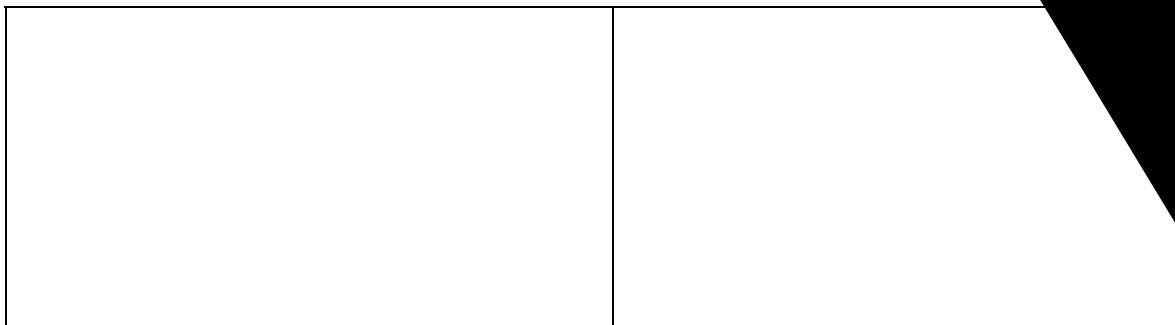
---

cr \v{v}





Vj qwí j "ý g"gzr gevgf "xcnwg"qh'ý g"  
r gqr ng"i q"hqt"ý g"uwtg"ý kpi ."cxqk





r gtegp\0\Vj g"\WJ\Uw tgo g"Eqt v\l w\k eg"\Ugr j gp"Dtg{gt "eqo o gp\gf "qp"rkki c\k qp"\q  
hqteg"\y g"engcpwr "qh'c"\qzke"y cuw\g"ukg<"\0Vj g'hqt v\ / \y #

r gqr ngu"tkum'cxgtukqp"i qgu"qw"j g"y kpf qy <"pqy "j g{ "seek" c"tkum'kh"kv"qlhgtu"j g  
j qr g"qh'cxqkf kpi "c"muu0Mcj pgo cp"cpf "Vxgtun{"eq\$"

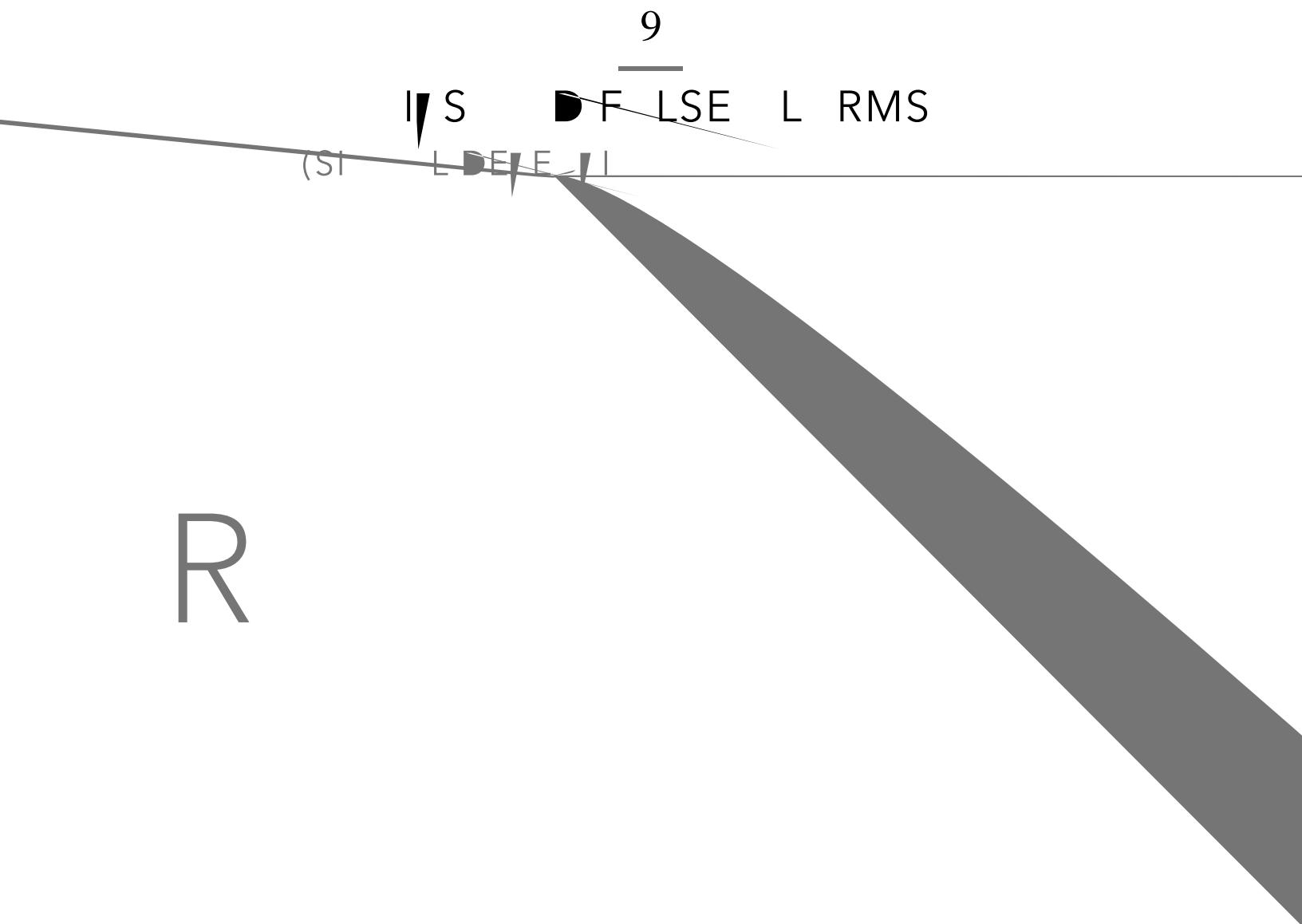
tkumseeking"cpf "hxqt "j g'Rt gxgpvxkt."y j kej "j qnf u"qvw"j g"j qr g"j cv"j g"mquu"qh'nkg  
ecp"dg"cxqkf gf "gpvtgn{OK'f qgupo"vng"o wej "ko ci kpc\qp"q"ugg"j qqO



Vj g"cu{o o gv{ "dgw ggp"i ckpu"cpf "nquugu."

wkrkv{"ecp" f grkxgt."cpf "køu"c"eqp| ü

y j gp"kv"eqo gu"vq"uetggpkpi "hqt"r tquvcg"ecpegt"y kj "j g"r tquvcg/ur gely



tgewt kpi "f k





r nqv'qh"j g"Dc { gukcp"nknkj qjf <"j g"r tqcdkrkv "qh'cp"qdu gtxcvkp"i kxgp"j cv"c  
uki pcn'ku"r tgugp<sup>Q</sup>"Qp"cxgtci g"j g"qdu gtxcvkp"j cu"c"egtvckp"xcimg"\*j g"fcuj gf  
xgt vecn'hpg+."dw'uqo gko gu'kwo"c"dkv"j ki j gt"qt"nqy gt0







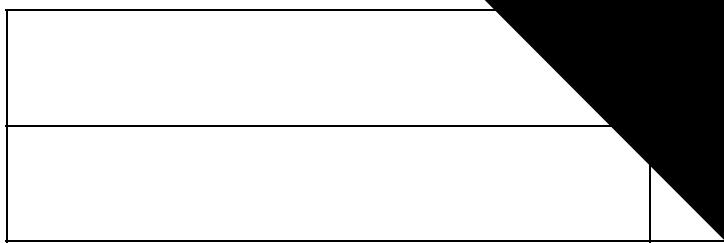
Y j cv"kh"kv"y cu"pqy kpi "dw"pqkugA"Y j gp"y g"uc { "õ[ guö"vq"pqy kpi ."kvu"ecmgf "c  
hcug"cn

Y j cv"cdqw"j g"qeekqpu"y j gp"j g"qdugt

Ukpeg"y g"uc{ "õ[ guõ"qt "õP qõ"gxgt { "õko g."õ g"r tqr qt õqpu"qh"j kõ"cpf "o kõuguu

P qy "j g"pgy u'ku'tgxgtugf <"y g"j ctf n{"gxgt"et {"y qrh'y kj "c'hcnu"cncto .'y j kej 'ku

o t ar d er e t , ar e Setting a toff



Yct "KK'Kp"j cv'ecug"j g"ecvcuG


tglge\kqpu"ctg"j ki j gt."y j k\g"y g"r gpcn\kgu"hqt"hcnu\g"cncto u"ctg"j ki j gt"qt"hqt  
o \k\ugu"ctg"\nqy gt0'Ci ck\p



kppqegpv'r gqr ng."uqo g"qp"f gcj "tqy ."y gtg"eqpxke\gf "qp"j g"dcuku"qh"gxkf gpeg  
j cv"eqwf "j cxg"eqo g"htqo "pqkug"cm quv"cu"qhgp"cu"htqo "c"uki pcr0'Vj g"o quv  
pqvqtqwa" ku" g{gy kpguu" vguv u


Vj g"ucpf ctf "r tguwo r \kqp"j cu"dgfp"q"cuuki p"c"j ki j "o qtcn"equv"q"hcug  
cncto u0'Cu"j g"lwkuv"Y kmkco "Drem\qpg"3945639: 2+r w"kv"kp"j ku"gr qp{o qwa  
twng."oK'ku"dgwgt"j cv"vgp"i wk\ "r g

dgw ggp"j g"f kwtkdwkqpu"h

Uw r qug"j cv"j g"r kecn's wcnk "qh'gxkf gpeg"kp"c'lw { "tkcnj cu'c"d "qh'3Ω"\*j cv  
ku."qpg"

tguuckpw'qp'r tqugewqtkc'n"



Dw'y j gt g"uj qwf "yj g"et kkecn"xcnwg"dg"r ncegf A"Vj g"uekgp\ku"o w\w"tcf g"qlh  
w q"nlpf u"qh'gttqt0'Uj g"eqwf "tglgev"yj g"pwm"j { r qyj guku"y j gp"kv'ku"twg."pco gn{ "c  
hcnu"cncto ."qt"kp"yj g"cti qv"qh"uv\ku\kecn"f gekukqp"yj gqt{ ."c"V{ r g"Kgttqt0'Qt"uj g  
eqwf "hkn"q"tglgev"yj g"pwm"j { r qyj guku"y j gp"kv'ku"hcnu"o ku







ky y qwf dg kp cp{qpgau kp\gt

wj qy p cu eqnwo pu. cpf ý g r c{qlhu ctg y tkwgp kp gcej egm Co cpf c&u kp ý g

cpf r nc{ gcej o qxg cvtcpf qo y kj y g uco g r tqdcdkrkv. ukhrkpi cp{ ungy .  
knu ngcp. qt f tkhcy c{ htqo c r gthgev ó ó ur nk0

Ukpeg y g vcdng ku u{o o gvkemnmp i y g fkci qpcn Dtcf a{ o cej kpcvqpu ctg  
kf gpvkecn0 Cu j g eqpukf gtu y j cv Co cpf c o ki j vfq. tqy d{ tqy . j g j cu pq  
tgcuqp éycgépc op qqpg c

Tcʌkqpcn cevqtu ecg gpf wr kp qwi wguukpi uwepf qlhi pqvlwivkp i co gu ý cvr kv  
ý go kp | gtq/uwo eqo r gvkqdp dwkp qpgu ý cvr ctu

Wprkng Ue

Ecknkp npqy u ý cvFcp r tghgtu Rggváu. cpf f gekf gu vq uj qy wr ý gtg.

o wwcml ucrkgpv gcej r ctvl hki wtkpi y cvyj g qy gt o wivj cxg p

hicker ar ~~d~~ E calatior ai e

Vj qwj dct j

o qxgu kp y j k ej gcej tgur qpf u vq y g



y kj y g r tqugewqt+ cpf F ghgev o gcpu tcwkpi j ko qw0 Vj g r c{qlhu. vqq.  
j cxg o pgo qpke mdgnu. cpf y gkt tgnc" cddj v#tp ". d#kpmq.



Vkv hqt Vcv0K ecmu hqt eqqr gtcv~~k~~pi qp ý g htuv o qxg cpf ý gtgch~~gt~~ v wt

dwo r gt vq dwo r gt qp c uo qi i { ht ggy c{0Gxcf kpi vczgu. unkpvkpi y j gp y g j cv  
ku r cuugf. o knlpi c tguqwteg vq f gr ngvkqp. cpf tgukunkpi r wdrke j gcmj  
o gcuwtgu nkng uqekcn f kucpekpi cpf o cumy gctkpi f wt kpi c r cpf go ke. ctg  
qj gt gzco r ngu qh co c

f y kpf ng vq | gtqô wpnguu ý g{ ctg cnuq i kxgp ý g qr r qtwpkv{ vq hpg ý g htgg  
tkf gtu. kp y j kej ecug cu \$ g



r t gukf gpv" y cu" pqv" gpvkngf " vq" eqper







Vj g"tqf "ugwngu"kpvq "c"nqec\qp"cpf "cp"cp i ng"ý cv'o kpko k̄ gu"ý g"u

Vj g"t gukf wenu"cnq "cmqy "wa"q "s wcpvh{ "j qy "eqttgmcvgf "j g"y q "xctkcdngu  
ctg<"j g"uj qtvg "j g"dcpf u."cu"c"r tqr qt\qp"qh"j qy "ur m{gf "qw"j g"gp\kg  
enwugt "ku"nghv"q "tki j v\cpf "wr "cpf "f qy p."j g"enqugt "j g"f qw"ctg"q"v g"qo cpq

uj qy kpi "eqttgnckqp." ngy"cmqpg"ecwucckqp0kp"4242"lgkh'Dg| qu"dtci i gf ."oCm'qh  
o { "dguv" f gekukqpu" kp" dwakpguu" cpf " kp" nkbg" j cxg" dggp" o cf g" y kj " j gctv  
kpwkkqp. "i wu"0'0'0'pqv"pcnku. ö"ko r n{ kpi "j cv"j gctv"cpf "i wu"ngcf "q"dgwt  
f gekukqpu"j cp"pcnku<sup>7</sup>"Dw"j g" f kf "pqv"vqm"wu"y j gy gt "cm"qh"j ku"y qtuv  
f gekukqpu"kp"dwakpguu"cpf "nkbg"y gt g"

Reg e ior g ge aon .

y j cvgxgt" wpwawcn" eqo dkpcvkqp" qh" i gpgu." gZR gTkgpegu." cpf " ceekf gpw" qh  
dkqmqi { " eco g" vqi gyj gt" kp" yj g" r ctgpwu0' O cp{ " qh" yj g" eqo r qpwpw" qh" yj cv  
eqo dkpcvkqp"y km'dg'hcxqtgf "kp"yj gkt"ej krf tgp."



*Ht cpmcpf Gtpgu\wugf "y kj "vj g'r gto kuukqp"qh'vj g"Vj cxgu"cpf "vj g"Ectvqqpkuv'I tqwr 0Cm\lkj vu'tgugtxgf 0*

Rgqr ng\ui"cwgp\kqp"i gw"ftcy p"q"cp c

wpgctpgf "xlewt { "chgt "tgc\kpi "c"r c\kgpv'y j q"eqo gu"\k"y kj "c"dqw"qh"ugxgtg  
cpzkgv\ "qt "f gr tguukqp0

Qpeg"ci ckp."uekgpv\m"ctg"pqv'k

f qpøv'et gf kvřj ko 'y kj "ecwukpi "y g"uwp"q 't kug

Gxgt {" kpf kxkf wcn" ku" wpks wg." uq" y g" ecpoV" npqy " y j gy gt" cp" qweqo g  
gxr gt kgpegf "d{"cp" kpf kxkf wcn" f gr gpf gf "qp" y g" wr r qugf "ecwag" qt" qp" y cv  
r gt uqpøl"o { tkcf "kf kqu{ pet cukgu0'Vq" kphgt "ecwucvkqp" htqo "y gug" eqo r ct kqpu.  
y g" y cxg" q" cuuwo g. "cu" y g{ "uc { 'nguu" r qgvkcm{. "õgo r qt cn" uvcdkrkv ö" cpf \_cn [ Y

C"ugeqpf "r w| ng"ku"rtggo r \kqp0'Uwr qug."hqt "j g"ucng"qh'cti wo gpv"j cv  
Ngg"J ctxg{"Quy cnf "j cf "c"eq/eqpur ktcvqt"r gtej gf "qp"j g"i tcuu{ "npqm"vO



K'{"qw'kpvgtr tgv'yj g"cttqy u"pqv'cu"mqi kecn'ko

Vj g"eqppge\qpu"tghgev"j g"eqpf kkqpcn'r tqdcdkkkgu0'kp"gcej "ecug."C"cpf 'E  
ctg'p

ÿ cv'i qqf / mqn<sup>h</sup>pi "o gp"j cxg"dg<sup>h</sup>ur qkngf "d{ "c" nkgyko g"qh'r gqr ng"m<sup>h</sup>au! qqf g

Tgxgtug"ecwac\kqp"cpf "eqphqwpf kpi ."ý g"ugeqpf "cpf "ý ktf "xgtugu"qh"ý g  
o cpvtc."ctg"wdks wksqwu0'Vj g"y qtnf "ku"c"j wi g"ecwacn'Dc{gukcp"pgw qtm"y kj  
cttqy u" r qlpvkpi " gxgt{" y j kej " y c{." gpvcpi nkpi " gxgpw" kpq" npqw" y j gtg  
gxgt{ ý kpi " ku" eqttgnvgf" y kj " gxgt{ ý kpi " gnug0' Vj gug" i pctnu" \*ecmngf  
o wñkeqmnj

f twi "y qtngf 0'Cu"qpg"qh'o {"i tcf wcvg"uej qqn'gcej gtu"uckf "\*cmwf kp

Vj g"qj gt"r tqdrgo "y kj "gxr gt ko gpvn'o cpkr wcvkqpu."qh'eqwtug."ku"j cv"j g  
y qtnf "ku"pqv"c"nqdqtcvqt {0'Ku"pqv"cu"kh'r qnkkecn"uekgpvkuu"ecp"hr "c"eqkp.  
ko



eqphqwp

Dcemwq vj g Hmwttg<"vj g"lwwtg"ecppqv"chgev"vj g"r cu0Uwr r qug" {qw"y cpv"q "guy





cff kpi "o qt g" gto u"q" y g"ut kpi 0'k" y g"ecug"qh'r gceg. "y g"gs wc kqp"o ki j v'dg< Rgceg"? "\*c" "F go v





ÿ g"y q"tki j v"qpgu+0'Dw"y j gpgxgt"y g"kpvgtr tgv"c'r j gpqo gpqp"y kj "y q"qt  
o qtg"ecwugu."cp{ "kpvgtce\kqp"uwr gtugf gu"ÿ g"o ckp"gho c

y qo gp"y j q"j cf "pqv"\*j g"r qlpw"qp"y g"nghmO'Uecppkpi "y g"nkpgu"htqo "vqr "vq  
dqwqo ."y g"htuv'ku'hqt "y qo gp"y j q"o c{ "dg"j ki j n{ "r tgf kur qugf "vq"f gr tguukqp.  
dgecwig"y gkt "kf gpkecn'y kp."y kj "y j qo "y g{ "uj ctg"cm'y gkt "i gpgu."uohO

dgw ggp"j g"y q "nkpgu0Dw"j g"tgcn'o qtcn'qh'j g"uvqt { "ku"j gkt "kpvgtce\kqp<"j g  
nkpgu"ctg"pqv'r ctcgn"uj qy kpi "j,cv"uo ctvgt"r m{gtu"i ckp"o qtg"y kj "gxgt {  
cf f kkqpcn'i co g"qh'r tce\eg0'CpjH



uqo g"qh'ý g"r tgf kevqtu"ý cv"j wo cp"gzr gtw"t gn{ "qp"ý g"o quv"uvej "cu"



32

---

T



r ctcpqto cn'dgrkghOJ gtg"ctg"uqo g"hi wtgu"ltqo "j g"htuvf gecf g"qh"qwt"egpwt {<sup>9</sup>

Rquuguukqp"d{ "j g"f gxkn "64"r gtegpv  
Gztcugpuqt { "r gtœ

RGC P WVUÍ '3; 77'Rgcpwu"Y qtif y kf g'NNE0F 0'

Uqekcn"o gf k̄c"o c{ "kpf ggf "dg"ceegngtc̄kpi "j̄ gkt"ur t gcf ."dw"j̄ g"cr r ḡkg"hqt"hm̄t kf  
h̄pv̄ukgu"n̄kgu"f ggr "kp"j̄ wo cp"pcwtg<r gqr ng."pqv"cn̄ qtkj̄ o u."eqo r quq"j̄ gug"uqtkgu.  
cpf "k̄w̄"r gqr ng"j̄ g{ "cr r gcn"q0' Cpf "hqt"cm"v

K' ku" c" hqto " qh" | v

twng"ej qqug"ý g"R"ectf ."y j kej "ecp"eqphkto "kv"dw"pqv"ý g"pqvS "ectf ."y j kej "ecp  
hcukh{"k<sup>3:</sup>"Vj g{"f do"f v"O e "v ""~ej nr v j kd"ý g+"

p " <sup>g</sup><sub>u</sub> t g



Tgr wrkecpu" o kij v' cwtkdwg" y gkt" uweeguu" vq" dgkpi " o qtg" qdlgekxg" y cp" y g  
dnggf kpi /j gc

Y j gp"r gqr ng"ctg"cungf "q"xtkhl"

É""É""É

Y Ø " " " " "j wo cpu"ctg"nggp"q"fkxkf g"j gx



kv" f qgupøv" i q" cy c{0' Y j {" f qgupøv" tgcrkv{ " r wqj " dcem! cpf " kpj kdkv" r gqr ng" htqo  
d

Vj g{ "j cxg"pq"ej qleg<"j cvu"j g"qpn{ "y c { "q"nggr "i cu"kp"j g"ect."o qpg{ "kp"j g"dcpm  
"

Rngkuqegpg"j wpvgt/i c~~j~~ gtgtu"ur gek~~k~~ecm{"dw" dgecwig"y g"f quegpf gf "hqo "r gqr ng  
y j q"eqwng " gedw"



eqo o kwgf "uwkekf g"kp"3; ; 9"kp"r tgr ctc\qp"lqt "j gkt "uqw\l"q "dg"y j kungf "cy c{ "d{ "c  
ur ceguj kr 'hqmqy kpi "j g"J cng/Dqr r "eqo g\0Dw\l"t gf kur qu\l \k

cr r gct" qp" fc{`ko g" vcm' uj qy u" ctg" ej ctrvcpu" y j q" gzwdgtpvn" | pp

dwttkpi "hc

Kp"gxgt{fc{"rhg."j gp."

dknkqpu0' Eqpur kce {"j gqtkgu" kpekg "ggtqtkuo . "r qitqo u." y ctu." cpf "i gpqekf g0' C eqttqukqp "qh" wcpf ctf u "qh" wqf "wpf gto kpgu "f go qetce {"cpf "engctu" j g "i tqwpf "hqt vtcpp{0

Dw'hqt "cm'j g "xwpptcdkrkkgu "qh"j wo cp "tgcuqp. "qwt "r kewtg "qh'j g "hwwtg "pggf "pqv dg "c "dqv "y ggkpfy ggv {tg" {



ðTcvkqpcnv{ "Eqo o wpkv{ ö"kf gpvkkgu"kvugrh" d{ "yj gug" pqt o u."dw" yj g{ "uj qwf "dg" yj g  
o qtgu"qh'yj g'y j qng"uqekgv{ "tc yj gt"yj cp"yj g'j qdd{ "qh'c"enwd"qh'gpyj wakcuuo<sup>94</sup>

Vj qwi j "kva"j ctf "vq"uggt "yj g"cktetch"ecttkgt "yj cv"eqpukwgu"cp"gpvtg"uqekgv{.  
r ct vewrc"kpukwqpc""h ""gu"wt'pu0dv""gah pvot

et gc\kpi "cpf "uj ctkpi "kv"r tko ctkn{"lc









qr r tguuqtuA<sup>4</sup>"Kp"gctnkgt "ej cr vgtu'y g"ngctpgf "q "f knt wav"hcnuq "f k ej qvqo kgu"cpf  
ukpi ng/ecwag"gzr ncpckqpu."uq" | v

f cpi gtqwu" s weengt {0' Knwqt {"eqttgrcvkpu." cpf "c" eqphwukqp" qh' eqttgrcvkqp  
y kj \$"

Y j cw"j g"j cto "kp"eqpur ktce{ "j gqtkgua'HDKkf gpvkkgu  
œqpur ktce{/f tkxgp"f qo guke"gzvtgo kiuö"cu"c"pgy "f qo guke  
vu"j gqt"Qgptu"Xkz"no"ta"#Q"v g8cnurtp "qjjuww j cw"j g"j cto "c "j ucniv

Y j cw"j g"j cto "kp"i gwkpi "j gcmj "cf xkeg'htqo "cp%"j gtdcn cg0jt e ljt

hcmcekgu"y cu"eqttgnvgf "y kj "j gkt "kpvgmki gpeg."j qwi j "qpn{ "r ctvn{0'K'y cu  
cnuq"eqttgnvgf "y kj "j gkt "f gekukqp/ofchqpqp/

q"guv'uqo g"etgf gpeg"kp"j g"ecwacn"eqpen



kp\q"y qtm"lce\qtkgu"y kj "o cuu"r tqf we\kqp."cpf "eqpxg{cpegu"rkn\g"tck\rtqcf u.  
ecpcnu."j ki j y c{u."cpf "eqpvckpgt"uj kr u0'O cvgtkcn'vgej pqmqi kgu"f gr gpf gf "qp  
hkpcpekn\qpgu."r ct\kew\ctn\ "dcpnkpi ."hkpcpelg

tgf qwdngf "q" f gcn"y kj "j g" tknu"y g" hceg" qfc{."r ct \ewrtn{ "j g" Vtci gf { "qh  
j g" Ectdqp"Eqo o qpu"\*ej cr vgt": +0'Dtckpr qy gt"y km"j cxg"q"dg"cr r nkgf "q  
gej pqnqi kgu"j cv" | E

ngi kuncvqtu.'gn



Vq "j gug"eqpukf gtc\kqpu"cf f "j cv"j g"cf xcp\ci gu"f gtkxgf "htqo "r gceg  
f k\hwug"j go ugn\gu"htc "cpf "y kf g."cpf "tgcej "great numbers=y j kng"\kp  
war."kh'cp{ "j kpi "wt\pu"qw"j cr r kn{ '000'j g"cf xcp\ci g'tgf qwpf \q c

Dgeectk" \*395: ó39; 6+" m kf " qw



tgcevkqp"ltqo "U{ugo "3."kh" {qw"y km+"cpf "ql"tgcuqp"qwt"y c{"q"eqj gtgpv  
dgrkghu"qp"y j q"ku'f gugtxkpi "qh'tki j w'cpf 'r tqvgekqpu0

Vj g"r tqff kpi "qh"eqi pkkxg"tghgekqp"d{"cpcmqi k kpi "c"r tqvgevgf "i tqwr  
y kj "c"xw"



t gur gev̄pi "j gkt "qy p"j cr r kpguu."kv"dg"pqv"kp̄eqpukv̄gpv"cpf "wplwuv"q  
uwdlw̄ cvg"y qo gp."gxgp"j qwi j "{qw̄hkt o n{ "dgrkgxg"j cv" {qw̄ctg"cev̄pi  
kp"qgu"q pf Ȑ v'kvekvikvg kq u vqgkt vcr r kpguu. Av̄ nu npfg"qf kpguu "gv

Vj gtg"ctg"ugxgpv{/w q"etko gu"kp"j g"Uv\_







C APT 1 W ATI ALA A IMAL?

30Twugnd3; 72422; 0

40Urkpql c "38994222."Gj keu."KK"rtgh

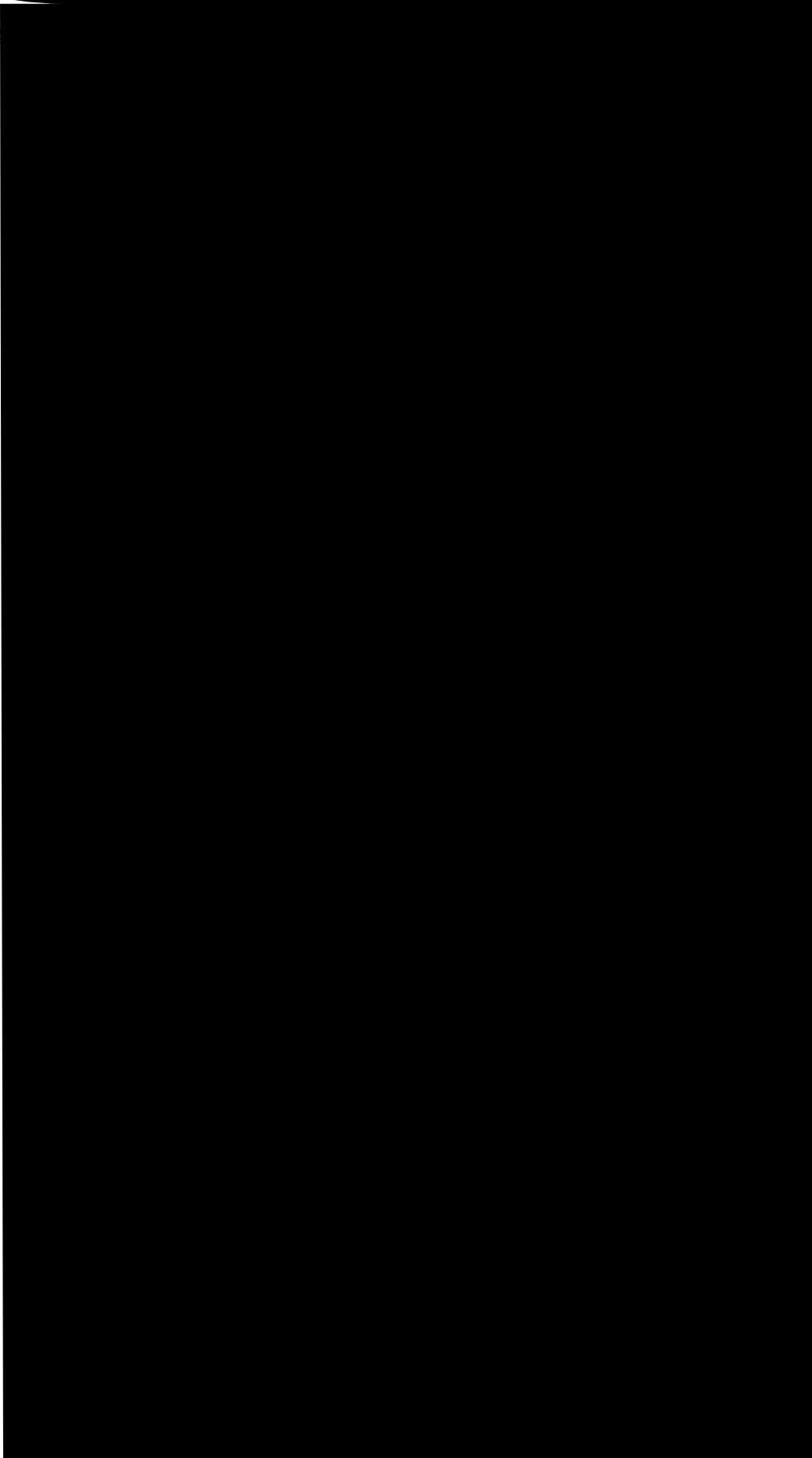
50F cvc"qp"j wo cp"rtqi tguu4222."

lpk\c{n}'lpwkkxg"ej qleg."y j cvgxgt "kv'ku="ugg'P lenght

76OS wqgf'lp"J gtw lk "( 'I lk gtgp|

C APT ~~?~~ ATI ALIT A DI ATI ALIT

30Lwvkhgf "twg" dgngh "cpf "eqwpvg



5:0J

C APT

L GICA DC ITICAL T I KI G

30Gkv3: : 54239."| 2

k

C APT

P BABILITY

A D

A D M

SS

30Ngwgt"q"O kau'Uqr j lc"Vj tc1g."46"  
40Dct vggw01'Hco kkct 'S wqwc \kpu0'

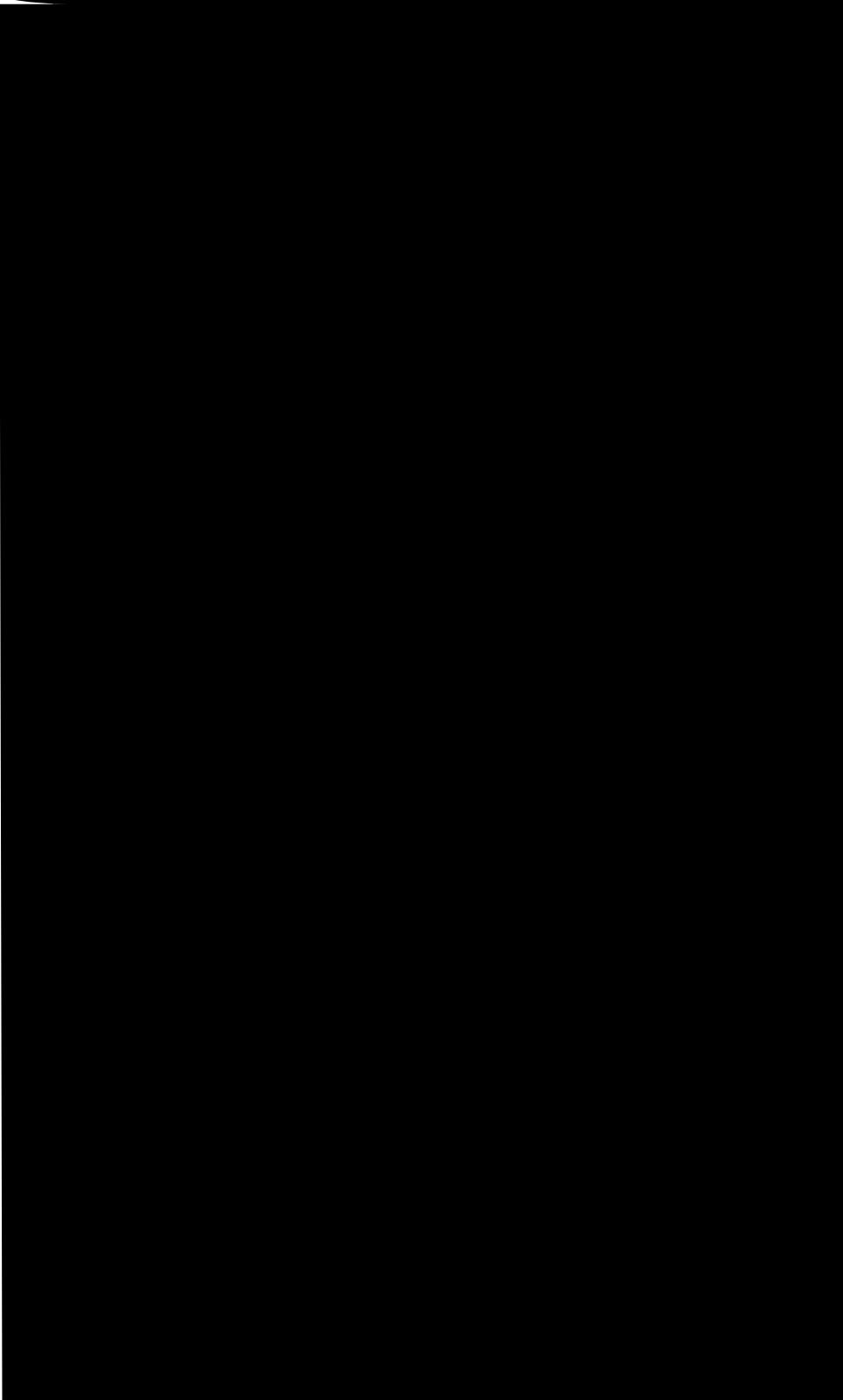
530O cf g"r qr wt"d{ "j g"Qdco c"ej lgh'qh'uvchhTcj o "Go cpwgn"dw'htuv"wgf "d{ "j g"cpj tqr qpi kv  
Nwj gt'I gteej 0Vj cpmu"q'Hgf 'Uj cr ktq."gf kqt"qh'Vj g"l cng'Dqqm'qh'S wqvkpu0  
540Hqt"cp"gzvgpf gf "cti wo gpv'qh'j ku"j ku

C APT B LI SA D VID C (BA SA AC I G

30Tc\qpciv{ 'Eqo o vpkv{ <

C APT 6 ISKA D WA D( ATI ALC IC A D XP CT D TILT,

30Vj g'o qf gr'qh'



540J culg"("Fcy gu"4232."

C APT 7 ITS A D ALA ALA MC SIG ALD T CTI A D STATISTICAL

30Vy clp"3: ; 913

40Ui pcrF gygev

450j wr u1znef0eqo l : 410  
460Pc w1g"gf kqtu"4242d/ ō



C APT C LATI A DCA CATI

30Uqy gm"3; ; 70

40Eqj gp"3; ; 90

50DDE "P gy u"42260

60Ugxgpuqp"("Y qhgtu"422: "cf cry



C APT 10 W AT'S W G WIT P PL ?

30Uj gto gt"4242c0

40QWQ24242c to Q o c . . . . . Ø Ø Ø 2422 QoQo o t ot



880Rgpp{eqqm'Ej g{pg."gv'c

60Gnugt"3; ; : =Hkj nlp"42330

70O gtegt"("Urgtdgt"42330

C APT 11 W ATI ALIT MATT

30



~~REFERE~~ES

Cdgnuqp."T0R03; : 80'Dg1ghu"ctg"1ng'r quuguulkpu0'Journal for the Theory and Application of Behaviour, 16.  
4456720j wr u4lf q2



Dqpf."O 0'422; 0'Tkunuej qqf0'Nature, 461, "33: ; 6; 4."Qe\04: 0  
Dqtpuv"





H

I g10 cp."W0C042270The essential cG

24: 7\*. 7± 2232/80

I regugt."GON042260Ru{ej qqqi {"cpf "j g"o ctngx"American Economic Review, 94."62: 6350

j wrlly y y QuqtQti lucdrig 157; 4; 3; 0

I qfc."I 0'U'Ngx{."O 0T0'O cpej gugt."E 0H0"Uqlqwttgt."C 0"("Vcuqlh'L042370'Vj g"tqrg"qh'lo g  
rtghgtgpegu"cpf "gzs qpgpvkni tqy j "dku"lp'tgvtgo gpv'ucxipi u0'National Bureau of Economic  
Research Working Paper Series,"pq0436: 40j wr ullf qlo 0Uc25:H436: ;

---

J cmy qtt

Lqj puqp.'F 0'

Mgpp{.'E0'42330Getting better: Why global development is succeeding—and how we can improve  
the world even more0P gy "[ qtm'Dcule'Dqqm0

Mguungt."I 0'Tk| q."W"( "Mgm{."O 0'42420'Vtwo r 'lu"cxgtci lpi "o qtg"vj cp'72'hcnig"qt"o kungcf lpi "encllo u"c  
fc{. *Washington Post*, "Qev0'440"

---

Ngy lu.'O 042380*The undoing project: A friendship that changed our minds*0P gy "l qtm"Y 0"Y 0  
P qt\qp0  
Ngy lu.'O 0M042380*Too du*



O gteIgt."J 0"( "Ur gtdgt."F 0'42330'Y j { "fqgggggg

P lengtuqp."T0'W03; ; : 0Eqphito c\kqp"dkcu<C "wdls w\kqwa'r j gpqo gpqp"lp"o cp{ "i w\kgu0'Review of  
General Psychology, 2."39764420]lwr u<lf ql0qt i B20B259B2: /48: 204040970  
P q\kqp."F 0'Dtgo gt."O

Rgctn'L0'42220'Causality: Models, reasoning, and inference0P gy "[ qtm'Eco dtlf i g" Wpkxgtukv{

Rtgwu0

Rgctn'L0'"( "O cengp| lg."F 0'423: 0'

Rqwpf uqpg."Y 0'3; ; 40'Prisoner's dilemma: John von Neumann

Tqj .I 0'C0"Cdcg."F 0'Cdcg."MOJ 0'Cdc{."W'O 0'Cddchck'E0"gv'c@'4

Uggdcej .'N0'3; ; 60'Vj g'hkzc\qp'y kj "j g"icuv'32'r gtegpv"qh'tkm

Uqcxg."T042360G| tc'Mglp"œeqo r̄gvgn̄ "uwr qt wö"œḡttkdgö"¶ gu'O gcpu"¶ gu'ic̄y ØReason."QeØ350  
j w uØlt gcuqpŒeqo 4236132135lg| tc/mglp/eqo r̄gvgn̄/uwr qt w/gt̄tkdg|0  
Uqelcn̄Rtqi tguu'Ko r gtcv

U{fpqt.'L042320\*Qxgt+puwtlp

Vlgttgt{.'L0'3; ; 30Dgj lpf "O qpv{ "J cmu" f qqtu<Rw| lg."f gdcvg."cpf "cpuy gt. *New York Times*, "Lwq "430  
j w u dly y y Q{ vlo gu0eqo 13; ; 312943twldgi lpf/o qpv{/j cmu/f qqtu/rw| lg/f gdcvg/cpf/cpuy gtQ vo 10  
Vlgttgt{.'L0'(" Dcwo gkngt."T0H423; 0*The power of bad: How the negativity effect rules us and  
how we can rule it*0P gy "I qtm"Rgpi wlp0  
Vqff & "

xcp'Dgpj go ."L0422: 0Nqi le"cpf "tgcuqplpi <F q"j g'hcew"o cwgtA"Studia Logica, 88."896: 60  
j wr u~~ll~~f q

---

Y k*n*pi j co .'F 0'V042290Et*k*lecr*v*j k*n*pi <Y



conjunction fallacy (Linda problem), [26](#)–[29](#), [115](#), [116](#), [156](#)  
correlation implies causation, [245](#)–[47](#), [251](#)–[52](#), [312](#), [321](#), [323](#)–[24](#), [329](#)–[30](#)

data snooping, [145](#)–[46](#), [160](#)

d3c

outrage, communal, [123–27](#)

overconfidence, [20](#), [29–30](#), [33](#), [115](#), [216](#), [255](#), [323](#)

paradoxical tactics, [58–62](#)

paradox of the heap, [—](#)





police killings of, [123](#), [124](#)625, [141](#)

*Ugg'cnuq racism;*

Bacon, Francis, [14](#), [94](#)–[95](#), [142](#), [346](#)n21  
bandwagon fallacy, [90](#), [93](#), [291](#)  
Bannon, Steve, [313](#)  
bargaining, [59](#)–[60](#),

definition, [152](#), [351n6](#), [352n6](#), [352n21](#)  
statistical significance as, [224](#)–[25](#), [352n21](#)  
    term in equation, [153](#)–[54](#)  
    term in equation, [152](#)–[53](#)  
base rates used as, problems with,

Calvin, John, [330](#)<sup>631</sup>

Carlin, George, [283](#), [299](#)

Carroll, Lewis, [38](#), [75](#), [96](#), [ad25](#)

Carroll, Sean, [160](#)

Castellio, Sebastian, [330](#)<sup>631</sup>

Categorical Imperative (Kant), [69](#)

~~categorial~~ one fallacy

— all-or-none fallacy, [269](#)

— conditions and, [258](#), [1482](#)

— confounding <sup>260</sup> phenomena), [246](#), [257](#), [6](#)

cheater de

Cognitive Reflection Test, [8610](#), [50](#)

coincidence, p



media fear mongering, [126](#)–[27](#)  
misinformation, [245](#), [283](#)–[84](#), [296](#), [316](#)

Coyne, Jerry, [302](#)

creationism, [—](#)

int

DiMaggi

Escalation games and, [238](#)  
expected utility and, [179](#)

European Union, [327](#)

evidence

evidential interpretation of probability, [115](#)–[16](#)

inadmissible, [57](#)–[58](#)

judicial,



French Revolution, [337](#)

frequency

as factor in memory recall, [119](#)

probability reframed as, [28](#)–[29](#), [117](#)–[18](#), [168](#)–[70](#), [349](#)–[50](#)n27

frequentist interpretation of probability,

bias, [19620](#),

the social contract, [244](#)  
taxes, [242](#), [244](#)  
and wealth, achievement of, [327](#)  
*Ugg'cnuq* [democracy](#); [policy](#)  
gravity, [113](#), [258](#)659  
Grimshaw, Jane, [225](#)  
Guatemala, [91](#)  
guilt by association, [91](#)  
gun control, [292](#)693, [295](#), [298](#)  
Guthrie, Arlo, [57](#)

happinessóincome correlation, [247](#)650, [263](#)664, [354](#)n21  
Hazeo

hot hand fallacy fallacy, [131632](#)

human-ff





recommendations for, [127](#), [314](#), [316](#), [317](#)  
an

used in service of goals,

rational choice and, [196](#), [196](#)–[99](#)  
unpredictable, [280](#)–[81](#)  
lightning deaths, [134](#), [357](#)  
likelihood (technical term), [152](#)–[54](#), [349](#)n4, [351](#)n6, [352](#)n21  
and statistical significance, [224](#)–[25](#)  
*Ugg'c nuq'wpf gt Bayesian reasoning*  
Lilienfeld, Scott, [90](#)  
Lincoln, Abraham, [144](#)  
Linda problem, [266](#)–[29](#), [115](#), [116](#), [156](#)  
Linnaeus, ??

ecological rationality and, [97](#)  
invali"

and truth-seeking, \_\_\_\_

vs. ecological rationality, [9a](#)



*Ugg'cnuq* complement of an event

no true Scotsman fallacy, 88

novel threats, 122

nuclear power, 121–22, 191, 347n22

nuisance variables. *Ugg confounding*

numeracy, politically motivated, 292–94

numerology, 143–44

odds, 159, 188

Odyssean self-control, 53, 55–56,

Pascal, Blaise, [17461](#)

myt



Pyrrhic victory, [237](#), [238](#)

QAnon, [284](#), [287](#), [299](#), [306](#)

q

framing, [188](#)–[92](#), [321](#), [323](#)  
framing of rewards, [192](#)–[96](#), [321](#), [323](#)  
process of elimination, [185](#), [186](#)–[87](#)  
risks vs. rewards, [187](#)–[88](#)  
satisficing vs. optimizing, [185](#)  
savored by psychologists, [196](#)–[97](#)  
small diff

scientists in legislatures, [312](#)  
in social media,



human-made threats, [122](#)



slavery, [67](#), [89](#)

abolition and rationality, [334](#), [335](#), [336](#), [337](#), [338](#), [339](#)

slippery slope fallacy, [100](#)–[101](#)

Slovic, Paul, [—](#)

statistical distribution. *Ugg* [distribution\\$](#) \_\_\_\_\_

reflective and unreflective thinking, [8](#)<sup>6</sup>10, [311](#)  
visual illusions and, [30](#)

taboos t  
and communal outrages, [123](#)<sup>6</sup>25  
definition, [62](#)  
forbidden base rates, [62](#), [163](#)<sup>6</sup>66  
heretical counterfactuals, [64](#)<sup>6</sup>65  
taboo on discussing taboo, [166](#)  
taboo tradeoffs, [62](#)<sup>6</sup>64,



climate change and, [242](#)643  
driving as risk, [120](#), [121](#), [122](#)  
plane crashes as risk, [33](#), [120](#), [343](#), [122](#)  
sales/bargaining, [59](#),

Wollstonecraft, Mary, [336](#)37

workplace rumors, [308](#)

*Vj g'O*

---

---



Ac shcr

W a 's ne n  
y' read n s

Disb \_\_\_\_\_ greep