

Rj evqycwii eZ[®]bi ev⁻eZvq evsj vt[^] tki ÔLv[^] " wbi v cËv[®]i fvebv

Avnmvb Dwiⁱ b Avntg[^]

wbev[®]ix cwi Pj K, tmUvi di tMvej tPÄ (wvRum)

mv[^]cÔZKKvtj RvwZmstNi Avl Zvq Rj evqycwii eZ[®] w elqK Avstivótg c[^]vtbj (AvB.wc.wm.wm) AvMvg ûnkqvi xi gva[^]tg GKUu weÁvbm[®]sZ cÔZte[^]tb Rwbttq⁰ th, [^]ewkK Rj evqycwii eZ[®] GKUu ev⁻eZv Ges Gi AwfNvZ nte bvbvgyL I m^yi c[®]hvi x (gv[^]KKw[^]©I Ab[^]iv, 2001; AvBw[^]umim, 2007)| GB cÔZte[^]bwU i agv[^]i AvBw[^]umim-i weÁvbx[^]i i Pbv bq — eis Zv RvwZmstNi m[^]m[^]f[^] meKÔUu t[^]tki th[^] c[®]Kvkbv| i PbvU[^]tZ weaZ f[^]wel[^]tZi f[^]qvenZv gvbeRw[^]Zi Rb[^] AZ[^]š[^], i "ZcY[®] AvšR[®]ZK gntj BtZvgt[^]a" ej v ntq⁰ th, Rj evqycwii eZ[®] eZ[®]yb I AvMvgx w[^] tbi wetk[^]i metP[^]tq eo msKU wnt[^]mt[^]e wete[^]pZ nI qvi thvM[^]|

AvBw[^]umim-i mv[^]cÔZKZg cÔZte[^]tb D[^]tj E Kiv ntq⁰ th, wetk[^]i [^]wi[^] t[^]k[^]ujvB RvUj I m^yi c[®]hvi x AwfNv[^]Zi g[^]LvgvL nte metP[^]tq tenk[^]| ej vev[^]j[^], [^]wi[^] t[^]k[^]ujvi g[^]ta[^] evsj vt[^]k Ab[^]Zg (wek[^]vsK, 2000; nK I Ab[^]iv, 1998)| e⁻Z GB bZb cÔZte[^]b tZgwb me c[®]hviYw[^] Rbmg[^]t[^]q Z[^]tj a[^]t[^]i⁰ hv[^]Z m[^]t[^]U i wewfbae w elq cwi[®]vi f[^]vte teiSv hvq|

AvBw[^]umim-i ch[®]ij vPbv Ab[^]hvqx, 1750-Gi ci t[^]tk gvb[^]li bvbwea Kg[®]v[^]t[^]Ei dtj evqg[^]E[^]tj Kve[®]-WvB-A- vBW, w[^]gt[^]_b I bvBU[^]m Av[^] BWm[^] eU Zvc tkvLYKvi x M[^]v[^]mi NbZi µgkt tetot⁰| c[®]U[^]gv[^] M[^]v[^]mU (A[^] Kve[®]-WvB-A- vBW) g[^]j Zt R[^]evk[^]R[^]ij vbx[^]i [^]nt[^]bi dtj (wetk[^]lZt w[^]k[^]i -Kvi Lvbrq I hvberntb) Ges f[^]wg e[^]envi e[^]tj t[^]dj vi Rb[^] w[^]bM[^]z nq| Acivci M[^]v[^]m [^]U g[^]j Zt Kw[^]l t[^]tk w[^]bM[^]z nq| g[^]tWj -c[®]B dj vdtj GKUu Aew[^]-wZ w[^]P[^]t[^]i (A1B) Rvbr hvq, 1990-Gi m[^]v[^]t[^]c[^]t[^]q 2020 [^]k[^]t[^]K c[^]U[^]exi Mo Zvcgv[^]iv evote 0.65 w[^]w[^]M[^]0tmj w[^]mqvm, hv 2050 I 2100 [^]k[^]t[^]K Av[^]t[^]iv teto [^]vovte h[^]v[^]µtg 1.8 I 2.8 w[^]w[^]M[^]0tmj w[^]mqvm| Ab[^] Aew[^]-wZ w[^]P[^]t[^]i Av[^]t[^]iv tenk D⁰Zv e[^]v[^]i m[^]q[^]ebv Rvbr tM[^]t[^]Q, hv Ggbw[^]K 6.4 w[^]w[^]M[^]0tmj w[^]mqvm ch[®]-nt[^]Z c[^]vti (AvBw[^]umim, 2007)|

AvBw[^]umim-i ch[®]ij vPbv ej t⁰, D⁰Zv e[^]v[^]i th nvi BtZvgt[^]a c[®]hviYZ ntq⁰ Zv wetk[^]K w[^]b[^]tq P[^]tj t⁰ f[^]qven cwi Yv[^]Zi w[^] t[^]k| Zv[^]i c[®]B dj v[^]dj Ab[^]hvqx wetk[^]i Mo D⁰Zv 2 w[^]w[^]M[^]0tmj w[^]mqv[^]mi tenk evot[^]Z t[^]l qv w[^]K nte bv| AvBw[^]umim-i cÔZte[^]bwU i Z[^]v[^]ej x c[^]U[^]exevm[^]t[^]K wech[®]qKi GK f[^]wel[^]tZi g[^]LvgvL [^]wo Kw[^]i t[^]q w[^] t[^]q⁰| Ggbw[^]K b[^]bZg 2 w[^]w[^]M[^]0tmj w[^]mqvm D⁰Zv e[^]v[^]i w[^]gevn Mj b, cvbxq R[^]tj i c[®]c[^]Zvi cwi eZ[®], G[^]j vKv[^]t[^]f[^] Liv I eb[^]vRv[^]bZ Kvi t[^]Y Kw[^]l i dj b nvm Ges R[^]xe[®]w[^]P[^]t[^]i n[^]t[^]mi Kvi Y ntq t[^]lv t[^]te| weÁvbx[^]i 2 w[^]w[^]M[^]0tmj w[^]mqvm D⁰Zv e[^]v[^]i m[^]xgv[^]t[^]K ōf[^]qven Rj evqycwii eZ[®] wnt[^]mt[^]e w[^]P[^]v[^]Y Z K[^]t[^]i⁰b (AvBw[^]umim, 2007)| evsj vt[^]k mi K[^]vti i c[®]U[^]w[^]vae[^]; G[®]wel qK me[^]kl AvšR[®]ZK m[^]t[^]š[^]j t[^]b D[^]v[^]E Avnev[^]R w[^]b[^]tq⁰ hv[^]Z AwaK w[^]bM[®]bKvi x t[^]k[^]ujv [^]z w[^]bM[®]b K[^]v[^]t[^]q D⁰Zv e[^]v[^]i m[^]xgv[^]t[^]K ōf[^]qven ō Ae[^]-vi h[^]t[^]o b[^]x[^]P i v[^]t[^]L|

wetk[^]i Rj evqy th Av[^]t[^]mi gZ t[^]bB Ges Gi w[^]c⁰t[^]b gvb[^]li i Kv[^]h[®]ergB th metP[^]tq tenk [^]vqx tm w el t[^]q weÁvbx[^]i A[^]t[^]bK Av[^]t[^]MB w[^]b[^]w[^]z c[®]hviY [^]w[^]l[^]j K[^]t[^]i⁰b| weÁvbx[^]i Gevi [^]vex Ki[^]t[^]Qb, cÔZ 1.8 w[^]w[^]M[^]0tmj w[^]mqvm Mo Zvcgv[^]iv e[^]v[^]i t[^]q[^] w[^]Zi gv[^]iv e[^]v[^]cK t[^]tk e[^]v[^]cKZi nte| c[^]U[^]exi i[®]f[^]vevcb[®]g[^]j vK[^]ujv P[^]vt[^]li AthvM[^] ntq cot[^]e| 1990-Gi Mo Zvcgv[^]iv Zj bvq 3.6 w[^]w[^]M[^]0tmj w[^]mqvm Zvcgv[^]iv evovi dtj eZ[®]vt[^]b [^]o R[^]xew[^]P[^]t[^]vi 30 kZvsk n[^]wi t[^]q hvl qvi S[^]nk[^]t[^]Z cot[^]e| b[^]v[^]bv ai[^]t[^]bi m[^]gm[^]v Q[^]wt[^]q cot[^]e [^]w[^]q[^]Y Av[^]t[^]g[^]vi Kv t[^]tk D[^]Ei Av[^]t[^]g[^]vi Kv g[^]nv[^]t[^] t[^]k, BD[^]t[^]ivc t[^]tk G[^]ukq[^]q, Aw[^]cdK[^]v[^]q| Aw[^]cdK[^]v g[^]nv[^]t[^] t[^]k c[^]mb [^]f[^]Zvq Av[^]µ[^]vš[^]-nte 25 tKw[^]U gvb[^]| Aw[^]cdK[^]vi Lv[^] Drcv[^]bl w[^]ec[^]j f[^]vte K[^]t[^]g hv[^]te| Ab[^]w[^] t[^]k G[^]ukq[^]vi eb[^]v[^]c[®]EY G[^]j vK[^]vq eb[^]vi gv[^]iv e[^]v[^]cKZi nte, w[^]gv[^]t[^]q[^]i

ZiviveZ Pev I vngewv t_+K eid Mtj hvte | dtj th me b`x vngvj tqi ei dMj v cwb+Z GLbl engvb, tm_+tj v
µgkt kvYntq hvte | eid aYm I fvg aYm tefo hvte |

metPtq m+tu cote AvcdKv gnv+ k I `vY Gvkqv — thLvfb evsj v+tki Ae_vb | Gme Gj vKvq th+nZi`wi`
gvb+li msL`v tevk, GLvfbB +Lv t`te bvbvgyL I my+ c+nix m+U | `vY Gvkqv eb`vi cKvc evote,
DcKj xq Gj vKvq b`x Zxi/ZUti Lv fv+bi e`vckZv evote Ges DcK+j NwYSoRwbZ mgm`vi i ZxeZv evote |
vngvj tqi eid Mj tbi vel quI cvbxq Rj c`bi t`+Pj gvb mgm`vi ZxeZv evote | Avk+V Kiv ntqtQ, GtZ
`vY Gvkqv 60 tKvUli tevk gvbtli Rxeb I RweKv eua mgm`vi g+LvgyL nte |

Rj evqycwi eZBkxj Zv, cwi eZB I evsj v+ k

Rj evqycwi eZB evsj v+tki Rb` Akub mstKZ etq AvbtQ | Rj evqyZvnoZ NUbvc`vn Gt`tk GKUy tevk
gv+vtZB +Lv hvq | cwb+ c`c`Zvi Dci vbfP Kti bvbvb `thMcY`Avenl qvi m+o nq c`KvZK vboqg hv
Gt`tki j q+KvU gvbtli Rxeb I RweKv chP`-Kti vdeQi | GtK tZv FZft` cwb+ c`c`Zv Pigfvevcb
(el+Lp tevk Ges kxZ GtKeiti Kg), Ab`w`tk cwb+ c`c`v vbfP Kti AvfbwAeewvKvi Acivci t`k_+tj vi
Dci | GB `B ev`eZvi vfwE+Z cwbewvZ th `thM-Smk tj tMB_vtK, Rj evqycwi eZB ntj Zvi e`vB tefo
hvte Ges q+q+Z e`vckZi nte | vebZvi Gme vel tqi mv+ hw` tftMvj K Ae_vbMZ Amjeav, m+vm+bi
Afv I c`kvmibK A`qZv Ges bmvZgvj v ev`evqtbi Acvi`wkZv h+ nq — hv Gt`tk A+Kt`q+ j q+bxq —
Zvntj Rj evqycwi eZB+ dtj evsj v+tki mweK vebZv D+Ev+Ev tefo hv qvi m+evb Lp tevk (Avng` I
Avntg`, 2002) | GtZ `wi`+I mvgvRK mjeavwAZ c`vK gvbtli `fM evote metPtq tevk (Avmv`y+vgvb I
Ab`iv, 2005) |

evsj v+tki Dcti m+uv` Z m+vc`KZg Mtel Yv t_+K Rvbn hvq th, 2030 I 2050 mvj bvmv` eZBv mg+q
Zj vq eml R Mo Zvcgv+ evote h_v+tg 1.0 I 1.4 vWvM+tmj vmqvm, hv 2100 mvj bvmv` Av+iv tefo `vot
2.4 vWvM+tmj vmqvm (AvM+I qjv I Ab`iv, 2003; Mc`vsm, 2005) | Av+iv Rvbn tMtQ, Gt`tk kxZi ZxeZv
A+KvB Ktg hvte, A_P M+Kvj xb Mi tgi gv+ v µgkt tefo hvte | GtZ loFZi evsj v+tk Oqv FZi e`tj
tKej Pvi v FZi Avj v`vfvte vPyZ Kiv hvte |

GQrov tgsmgx ep+cvZ Av+Mi gZ_vKte bv | 2030 I 2050 mvj bvmv` eml R Mo ep+cvZ evote h_v+tg 5 I
6 kZvsk nvti, hv 2100 mvj bvmv` eZBv+bi Zj vq Av+iv 10 kZvsk evote | Zte D+L+M` GB th, el
tgsm+g ep+cvZ evotj I kvZKvj xb ep+cvZ eZBv+bi Zj vq h_v+tg 2, 5 I 10 kZvsk nvti Ktg hvte
(AvM+I qjv I Ab`iv, 2003) | ep+cvZi MocoZv Avew`wZ c+ivcvi e`tj hvte | Amgtq ep+, Abvep Ges
AvZep — meB NU+Z_vKte cPvj Z AvfAZvtK weavš-Kti | GQrov elv+tgsm+gi tklvstk vbaPvc-ZvnoZ
ep+cvZi gv+ 10 kZvstki I tevk tefo hvte (AvM+I qjv I Ab`iv, 2003) |

Gi cvkvcmk evsj v+tki DcKj xq AAtj 2030 I 2050 mvj bvmv` mg+`f Dcwi Ztj i `xvZ NUte eZBv+bi
Zj vq h_v+tg 14 I 32 tmvUvgUvi, hv 2100 mvj bvmv` Av+iv tefo `vot 88 tmvUvgUvi | Gi dtj
DcKj xq j eY-Avµvš-Gj vKv m+cnvwi Z nte, `vY-cvOgvAtj i tKv+tv tKv+tv (vPyZ) DcKj xq evtai wfZti
j eY-cwb+ Rj ve+Zv +Lv t`te (Avi.vf.vv.vv, 2003; v.v.B.R.AvB.Gm, 2006) | B+Zvgta` Gi c`vgK
AvjvgZ +Lv thZ`i` Kti+Q DcKj i vefbGj vKvq |

Dcti i Z`w` ch+ vPbv Ki t+ Avgiv tek vKQymgm`vtK vPyZ Ki t+Z cwi |

- el[®] tgšm[†]gi ep^ócvZ evotj b`x[†]Z cwb cēvn evote Ges tmB mvt_ evote gvSwi t_†K eo eb`vi t[†]Sbt[†]cbKZv (Avtg I Ab`iv, 1998)| Avk¼v Kiv nt`Q th, th[†]Kv[†]bv `wJ eo eb`vi ga`eZ[†]mgqKvj μgkt KgtZ _vKte| f[†]el`†Z eo b`x[†], t[†]j v†Z eia w`†ql Rj evqycwi eZ[†]RwbZ eo gv[†]vi cve†bi nvZ t_†K `wi `ª RbtMw[†]†K euP[†]†bv Kómv[†] nte| Ab`w`†K, kxZKvj xb ¶[†]Ygv[†]vi ep^ó Av†iv Ktg hvl qv Ges Zvcgv[†]v ep[†]xRwbZ ev[†]úxf[†]eb te†o hvl qvq Liv cēYZv evote (Kwi g I Ab`iv, 1998)|
- i K†bv tgšm[†]g ep^óxbZv b`xi ¶[†]Y cēvn†K Av†iv Ktg†q t`†e, tRvq†i i DRvbg[†]L P†c μgkt Av†iv te†k GjvKvq j eYv³Zv Qw†q cote| G†Z DcKj xq GjvKvq Kw† Drcv`b e`vnZ nte (nvw[†]ej v[†] I Ab`iv, 1998)| GQvov cvbxq R†j i cōc`Zv Av†iv Ktg hv†e, w†klZt tmme DcKj xq GjvKvq thLv†b j eYv³Zvi gv[†]v te†o hv†e|
- h†kvi, Lj bv I mvZ¶[†]xiv AĀ†j Rj v[†]xZv `vqx nt†Z P†j †Q| Rj evqycwi eZ[†]†bi dtj el[†] AvZwi³ cwb eZ[†]†b `p Rj v[†]x GjvKvi w[†]vZ evov†e (Avtg` I Ab`iv, 2007)| Rj v[†]x GjvKvi m[†]c†hvi Y DcKj xq gv††i i Rb` Zx[†]†bwZevPK Av†fNvZ etq Av†b†e| j ¶[†] j ¶[†] cwi evi j eYg[†] cvbxq R†j i Afv†e nvnvKvi Ki†e| ej vevúj ` , cōq 70 j ¶[†] gv††i GLbB cōZw` b j eYv³ cwb cvb Ki†Z eva` nt`Qb|
- DcK†j eutai teóbx _vKv `†E†i gv††i i Rxebhv†v bvbv†v†e w[†]vNvZ nte| w[†]MZ K†qK erm†i A†bK GjvKvq eutai teóbx t††½ t††Q mwĀZ Z††ci c††v†e Av†KZi kw³kvj x DRvbgLx t††D††i av[†]vq| G†Z k††i i ¶[†]q¶[†]vZ nt††Q e`vcK gv††vq| GQvov mgy`ª `††fweK Ae`vi t††q tekx d†††Z _vKvq NbNb 3 b[†]† w[†]c`m†¼Z t` Lv†bvi dtj mgy Mvgx grm`R[†]x[†]iv wbcqgZ gvQ ai†Z cv††b bvB; Z†` i Rw[†]ev e`vcKfv†e ¶[†]vZM[†]–nt††Q (Avtg` I b††j w[†]g, 2007)| w[†]bKU f[†]el`†Z Gai†bi NUbvcēvn evi evi NU†e etj Avk¼v Kiv nt††Q hv DcKj GjvKvi RbRxeb†K Zx[†]ªúgvKi g†L t††j t`†e|
- j eYv³Zvi Kvi†Y `w¶[†]Y–cwiōgvĀ†j w††i vqb evavM[†]–nt†e (c††i v†bv w††i , t††j v GLb aK††Q)| GgbwK G†`†ki t††S†e my`iebl j eYv³Zvi cōZ`¶[†] I c††iv¶[†] _vevq wech[†]–nt†e (Avtg`, 1998)| my`ixmn `vgx e¶[†]i w††Ri e`†j j eY–m††nōz t††vcS††o f††i DV†e my`ie†bi cōZ†ek (w[†].B.††R.††vB.Gm, 2006)| ej vevúj ` , et†i e¶[†]i w††R†Z cwi eZ[†]† G†j Gi c††ve cote H cōZ†et†ki Dci w††f†Kxj eb` cōYxi Dci |
- evsj v†`†ki RbmsL`vi A†aK bvix, Zv m†E†i bvi†v P†gfv†e Ae†nwj Z| Rj evqycwi eZ[†]†bi t††vZevPK Av†fNvZ bvi†i Dc††B cote m††P††q te†k| eZ[†]†b mg††q mvZ¶[†]xiv I Lj bv AĀ†j th bvi††K j eY–g[†] cvbxq Rj Av††Z cōZw` b K††qK w††K†j w††gUvi nvU†Z nq, Rj evqycwi eZ[†]†bi dtj AvZwi³ j eYv³Zv Zvi Rxeb†K ch[†]–K††i Zj †e| M††elYvi djvdj t_††K GKUv m††úo aviYv cvl qv t††Q th, Acivci GjvKvi t††q t`††ki DcKj xq AĀj — w††klZ `w¶[†]Y–cwiōgvĀj — te†k gv††vq ¶[†]vZM[†]–nt†e|
- G†`†k `†h†Mi NbNUv evotZ _vK†j `†`nwm†i AvksKv te†o hvl qvi m††ebv cēj | AvskKv Kiv nt`Q th, cwbew†Z I Ab`vb` ti vM thgb N Wvqvi qv, UvB††qW I t††w††j cō`††e eZ[†]††bi Zj bvq A††K te†o hv†e| GQvov, P†–%ekvL I f††ªgv††mi Mi†g w††i Ges ex†`i `†`nwm†i Avk¼v i†††Q|
- mv[†]cōZK GK mgy¶[†]vq Avk¼v Kiv nt††Q th, Rj evqycwi eZ[†]†RwbZ P†g Av†v†l qv t`††ki thvM††hvM e`e`††K e`vnZ Ki†e (c.A., 2005)| Zx[†]ªeb`v Ges mvg[†] K NwYSo moK thvM††hvM I `vcbvq ¶[†]q¶[†]vZi gv††v ev††q Zj †e| mg†`† cwb†i DRvbg[†]L av[†]v Av†iv te†k m††μq _vKvi Kvi†Y B†Zvg†a` `††† nt††q hvl qv DcKj xq te†o eia , t††j v `ª Z ¶[†]†q hv†e, GgbwK t††K††b††i Askw††kl nV†† t†††m w†††q eutai w††Z††i i gv††† I `vcbvi Rb` `††h†M etq Av†b†e (Avtg`, 2007)|

- Avc` I` thM-SuK, Lv` wbi vcEvi SuK, Kwl Drcv` tbi mgm`w`, Rxeb I RwieKvi evovZ Uvbtcvfob, Kg`wbqtqvRtbi mgm`w`, `v` SuK, thvMvthvMLvZi evovZ msKU N me wgvj tq Rj evqy cwi eZB`RwbZ mgm`w` Avgv` i DbZZi Rxe tbi w` tK GvMtg hvl qvi cP`Pov`K μgvMZ evov w` tZ `vKte, hZ`Y bv Avgiv Gme SuKi h_vh_ tgvKvte j v Ki tZ cwi | Gme SuK tgvKvte j v Kti Dbq b c`μqv Ae`vnZ ivLvB nte AvMvgx KtqK `k tKi me tPtq eo P`v t j A | Avkvi K_v, S`K tgvKvte j v Kti Dbq b w`v`DZ Kiv Kómva` n t j I Am`e bq | bvbv ai tbi Awf`thvRb Kti Rj evqy cwi eZB`RwbZ S`K tgvKvte j v Kiv hvq |

evsj v` t k Lv` wbi vcE`v teva I Rj evqj cwi eZB`

evsj v` t k Lv` wbi vcE`v teva g j Zt Drcv` btKw` K | GKw` t k thgb e`w`K ch`q f v t j v Drcv` b n t j Pvl xi Nti `v`-`v`K, Ab`w` t k mvgw`K ch`q b`v`Z`v`ba`f`K gnt j I `v` t mpevZvm meB t Z `v`K | weMZ wZb `k t Ki Awf`AZvq t` Lv hvq th, t` kxq ch`q Lv` wbi Drcv` b thgb ch`q μtg evotQ t Zgvb DE`iv`Ei RbmsL`v te to hvl qvi Kvi t Y Ūc`q `qsm`u`Y` n l qvi c t i l Lw b K U v Lv` wbi v b v Ges Ab`v` A t b K Lv` Dcv` v t b i t` t j t` evsj v` k Avg`v b w b f`P n t q t` t k t Q | 1970-71 mg t q G t` t k Lv` wbi v b v Drcw` Z n t q i Q j 1 t K v U 15 j` Y U b, hv 2005-06 mg t q te to `w`ot`q`Q 2 t K v U 78 j` Y U t b | Zvi ci l 2005-06 A`e`Q`i c`q 4 nvRvi t K v U x UvKvi P v j, Mg I f`v`v Avg`v b Kiv n t q t`Q | Lv` Avg`v b i mweR` e`q w`Q j Avi l tekx, c`q 14 nvRvi 93 t K v U x UvKv | tmeQi Lv` Avg`v b e`q w`Q j mvgw`K Avg`v b e`q i c`q 15 kZvsk |

Zvnt j c`KZ A t` e` k R Drcv` b Qvov l evsj v` t k i Lv` wbi vcE`v Lw b K U v n t j I Avg`v b w b f`P | Lv` wbi vcE`v t` t j t` ZvB t` kxq Drcv` b e`e`v A U U `v`K t Z n t e, Drcv` b mgqKv j R`to Dc`thvMx Avenvl qv `v`K t Z n t e, GQvov AvŠR`KZK evRv t i c`w`b`thvM` Lv` gRj /thvMv `v`K t Z n t e, t K b v i Rb` c`q`v`Rb`x` e` t` w`K g j` i gRj `v`K t Z n t e, Dch`p AvŠR`KZK K U`w`KZK cwi tek `v`K t Z n t e Ges c`w`b`-cieZ`P `v`b`x`q eU`v`b i t` t j t` mpe`e`v`c`b`v `v`K t Z n t e | G t Z w`K`Q`i c t i B t K e j mvgw`K ch`q Lv` wbi vcE`v w`v`w``a` Kiv hvq | Gi c t i l A Z`š`-`i`Z`c`b` kZ`n` t j v `w`i``a` c`w`Š`K R b t`Mv`o`x`i (Kg`P) msK U K v j x b Av t q i w b i v c E`v I μ q` Y l g Z v Ges T`w`U n x b `v`b`x`q evRvi e`e`v | GB me`j v kZ`G K T` n t j B t K e j G t Z v te w` g v b t` i t` t k w b q u g Z f v t e Lv` wbi vcE`v w`v`DZ Kiv m`e` |

`v`x`Zv DE`i evsj v` t k Lv` wbi mvgw`K Drcv` t b i Dci Rj evqj cwi eZB`kxj Zvi e`v`K c`f`ve j` Y` Kiv hvq | 1973-Gi eo eb`v mvgw`K Drcv` t b th t b w`ZevPK c`f`ve t i t`Lw`Q j, Zvi B t Ri a t i m`/U I m`/U- cieZ`P Ae`e`v`c`b`v cwi j` Y`Z n t q t`Q, hv A`v`v`v`v` Avgv` i i v R`w`KZK Av t j v P b v t`K c`f`w`e`Z K t i | 1998-Gi `x`N`v`q`x eb`v eo m`/U `Zwi K t i w`Q j (mweR` Lv` NvUwZ w`Q j 34 j` Y U b), hv i v R`w`KZK mpe`e`v`c`b`v q ` Y`Zvi m t`_ tgvKvte j v Kiv t m t`Q |

2007 m v t j i t` w`i`Z Avmv eb`v GK A`o`g`v`sk G j v K v q Avgb avb tev b v i t` t j t` weN`em`p`o` K t i w`Q j | GKB avb t g s m t`g i t k t l `w` Y v`A` t j N t U h v l q v c i v μ g k v j x m v B t`K`v`b w m W i`&`t e k L w b K U v Avgb Drcv` b b`o` K t i | d j v d j Kg te w`k me v i B R v b v | te v t i v t g s m g m p`f`v`t e` i`i` K i v i c t i l g a`-t`d`e`p`w`i t`_t`K g a`-G w`c`j c t i v R w i Z t`K Lv` m`/t`U i Avk`v`v`q P i g D r K U v q `v`K t Z n t q t`Q | L w b K U v (m i s e i r m i i K w m v t e K g t e k x G M v i k Z v s k) D r c v` b b`o` n t j I j` Y t K v U g v b j t`K th b v t`L t`q`B `v`K t Z n q, Avgv i v G B w`b`o`i m t`Z`i g t`L v g`L Av t i K e v i n j v g | h`v` I m i K v i x Z n w`e`j 6 w`e`j q b W j v t i i l te w`k e` t` w`K g j` i g R`Z w`Q j Ges Lv` t K b v i t` t j t` AvŠR`KZK evRv t i Q t`U v`Q w`i l A š`-w`Q j b v | Zvi ci l Lv` wbi vcE`v c`KZ A t`_w`v`DZ Kiv hvq |

Avenvl qv GKUz`ewi n t j B G t` t k Lv` m`/t`U i c`a`p b t k v b v hvq, MY-gva`tg w`b`o`i ev`e`Zvi m v P T` c i Z t e` b Avgv` i w`k n i i Z K t i Ges AvŠR`KZK w`e`k`| Avgv` i ŪRv`Z`x`q f`v`e`g`v`Z`P`a`j`v`q`j`U`Z`n`q`| cwi w`v`Z mvgv`v`v`f`v`w`e`K n t q G t j B Avgv i v f j t Z e i m R j evqy cwi eZB`kxj Zvi m t`_ Lv` Drcv` t b i Ges Rv`Z`x`q Lv` wbi vcE`v t e v t a i

m=úK0v wK| Mtelbvj ä djvdj t_žK Avgiv tRtbwQ, thme eQti Kwl Drcv`b e`vnZ ntqřQ tmB eQi_žjvq tKvb bv tKvb Rj evqyZvwoZ `řhM Avgvř`i Drcv`b bó KřiřQ (tebmb I řKř 2002)| Avgiv Avřiv t`wL, RvZxq Avřqi c0x`i nvi H eQi_žjvřZB ceřci eQi_žjvi Zj bvq tek LwbKuv Kg ntqřQ| ev`eZv t_žK wKřv vbtj fiel`řzi Lv` wbi vcEv třřřř Rj evqycwi eZřbi weliřq mste`bkxj nI qvř tKvb weKři tbB|

c0řgB AvřjvPbv Kiv hvK fiel`řzi Lv` Drcv`řbi mgm`v I m=0ebv vbtq| Lvř`i řřv`v wnmvře c0Zw bB břZb gř evotřQ ř G GK AtřvN e`eZv| Ab`w řK bvbwea c0qvRřb (thgbt bMivqb, `vcbv I wKři i cřvi, bZř Avevmb BZ`w) Drcv`břhM` Rvři cwi gvY `*Z Křg AvmřQ| tKvb tKvb wnmvře wdeQi GK kZvsk nřti Kwl Rvř AKwl řvř e`envři cwi ewZř nř`Q| i`agvř Kwl řvři mřřKvřřbi KviřY Drcv`b Křg hvl qvř Ges `vbr`vi Lvř`i evowZ Pvr`vi Rb` Drcv`b I c0qvRřbi th e`eavb `Zwi nře ř AvMvřx `ř `křK Lv` msKU %Zwi řZ řmUB cřvb wbcvřK nřq DVřZ cřvi | G mgq th tKvb wmwřwKsev 098 Gi gřZv eb`v ř Rj evqy cwi eZřbi KviřY hv wKbv Nb Nb nevi Avkřv Kiv nř`Q ř i`agvř Lv` wbi vcEv nřZvi w řK B řřř ř`ře bv, Avgvř`i mřvřwK Lv` e`e`cbvi `řřřřK eo Přřřři gřL tdj ře|

mgm`wJ Avřiv NvbřZ nře hLb Lv`-D0ř t`k_žjvi tKvřbwřřZ wKsev AwK RbmsL`vi th tKvb t`řk (thLvřb wecj cwi gvřY Lv` j vřM, thgb Pxb, řvi Z, eřwřj wKsev Bř`řřřwKqv) H GKB eQti Lv` Drcv`b Kg nře* | GřZ c0řgřv` t`k_žjvřZ D0ř `vKřev wKsev NvUwř t`Lv hvře (wckvi I Ab`iv, 2003)| řkřřv` t`k_žjv Lv` mřřřř cov gvřř mřiv cřw`exi D0ř Lv` msM0n Dř`řMx nře| GřZ AvřřřřřK Lv`-evřřři gř`ew` Nute| dřř Avgvř`i `wi`řI c0řřK gvřj Lv` evřřři c0řK Mř`Zv nřivře|

fiel`řzi i`řřKwl Rvř Křg hvře bv, Kwl řhM` Rvři Deřřřv Křg hvl qvi AvkřvI w`řb w`řb NbrřZ nř`Q| 1980 `křKi řkřřřk bvbř gvřvi j eb Avřvřř-řvři cwi gvY thLvřb wřj 0.83 wřvř qb řnři, Zv 2002-03 břMv` řeto 3.05 wřvř qb řnřři `wotřřQ (Kwiř I BKeřj, 2003)| Kwl řZ e`eüZ 80 kZřřřki řenk Rvřřř c0qvRřbi b`bZg gvřřvq `Re Kveřbi řhMwb řbB| e`vcK GřvKvř wřřK I mřj dřři i NvUwř AvřQ| Dciř` Kwl ři vmvřwbK I Kř Kvi Lvřvi eřR`řřřř Deřřřv nřivř`Q Kwl řvř (w.Gd.Gg, 2007)| hv I řřřřřř řře mřvřwK Drcv`b řetoB Přřřř, Aj řřřř NřU hvl qv Gme msKU fiel`řzi m=0ebvřřK bó Křřř `*Z Gwřřř AvmřQ|

hZB w`b hvř`Q, Kwl R Drcv`b ZZB DcKiY wbfřř nřq cotřQ| MZ GK eQti Avg`vbrKZ DcKiřYi AvřřřřřK evřvi gř` nVř řeto hvl qvř GKwJ Drcv`b-mřU mřw nřqřQj, hv K.L.K chřřř e`vcK řZřřK w`řq mřvřj w`řZ nřqřQ| Kwl Drcv`řbi řřřřř řmP GKwJ c0qvRřvř kZ`nřq Dřřřř, A_P řmP hřřř řenk i řřřř Avř`vbrKZ wřřřřř Pwř Z| wřřřřř i AvřřřřřK wecbb gř` nVř řeto řmřř řZřřK Qvov Drcv`b Ae`vnZ ivLv, wřřřřř řevřiv řgřřřř, Kwl w nřq cřo|

Kwl DcKiY wřřřřř mvi I Abvb` i vmvřwbřři řřřřř GK B K`v c0řhvR`| eřj e`eüZ B Dwi qv I mřj řdU mřři i řek LwbKuv t`řk B Drcw` Z nq| ewK me aiřYi mvi AvřřřřřK evřvi gřř` wKřb t`řk wecbb Kiv nq| KřUbrkK I evřvBbkK-Gi řřřřř gř i vmvřwbřř Dcř`vbwři c0ř kZřřřř Avř`w b Kři Avřřřř nq| Lv` Drcv`řbi eZřřřř aviv eřvř ivLřřř wřřřř mřvřc0řřřřř Gme i vmvřwbřři e`envi Gwřřřřř t_žK řzi kZvsk nřti evotřQ (w.Gd.Gg, 2007)| A_řř Drcv`b wK ivLřřř wřřřř Gmřei Avg`vbr wbfřřřř evotřQ| AvřřřřřK evřřřřř Gmřei thřřřř GKwJi gř` nVř řeto řmřř c0řřK K.L.Ki bwrřřřř I Vvi `kv nq| Gme řřřřřř mřvřwK chřřř Lv` wbi vcEv eřvř `vKřřř, c0řřK Pvlřř`i Nři Nři e`w0K (gvBřřřř) Lv` wbi vcEv wewNřř nq (Avnřřř I Ab`iv, 2006)| wřřřř Kři Hme Lvřvi bvrřř`i Lv` wbi vcEv wbrřřř Kři B e`vnZ nq|

*% evř m=0ebv, Zře Rj evqycwi eZřřřř NUbřq m=0ebv řř řenk|

† †k Drcw` Z BDwi qv mvi , hv B` wbsKvtj avb Drcv` †b GKwU AZ`vek`Kxq DcKiY, tmiU cŃKvZK M`vm e`envi K†i Drcw` Z nq| M`v†mi cŃBe` gRy` mxwG Ges `*Z ¶lqŃ| vm×vš–tbl qvi tej vq bwiZ wba† Kiv wngwkG †L†q hv†`Ob Ń eZŃv†b cŃ° wj Z cŃBe` gRy` w` †q bZb mvi Kvi Lvbv n†e, bwiK wkt†i i Rb` we`r Drcw` Z n†e, wKsev Zij cŃKvZK M`vm wmw†e hvbev†b e`eÜZ n†e| BDwi qv mvi e`envi ep×i eZŃv†b aviv Ae`vnZ `vK†j AvMwG `ß `k†Ki g†a` BDwi qv mvi e`env†i cŃšK K.L.KKj mSK†U c†o ††Z cv†i b| BDwi qv mv†i i cŃc`Zvl µgkt Avg`wb wbfP n†q co†Z cv†i | Dciš` mv†i i AvšRŃZK wecyb gj` 2007-08 A_ŃQ†i i g†Zv j vMvgQrov n†j Zv cKvi v†š†i cŃšK Rb†MvŃxi Lv` wbi vcĚvi Rb` Ńgwk n†q DV†e|

Ab`w`†K, fwe††Zi Drcv` b bZb m†ebvi `qvi L†j w`†Z cv†i | Pvl KZ mKj Kwl Rwg†Z tmP m†eav GL†bv m†cŃw†i Z nqwb| tmP m†eavi m†cŃw†i Y NU†j Kwl R Drcv` b evovi m†ebv ev†o| M†el Yvi nvZ a†i bZb bZb RvZ K.L.K†i i nv†Z Avm†Q Ges Lv†`i Pwn`vi mv†_ Zvj wgvj †q mwweR Drcv` b µgktB evotQ| tekx dj`vqx DbzZi Rv†Zi m†cŃw†i Y GL†bv G††ki mKj cŃš–GK†hv†M N†Uwb| avibv Kwi Av††i B Zv NU†e Ges Avgv†`i Lv` wbi vcĚv ej q †`kxq Drcv` †bi wbi †LB we`Z n†e| AšZ Av†iv wKŃw` †bi Rb`| G††ki wKŃw` wKŃw` M†el Yv cwi Pwj Z n†`Q, Avgiv† h†_ó Avkvev`x n†q DV†Q|

Rj evqj cwi ewZŹ n†j evsj v††ki Lv` wbi vcĚvi m†U

Dc†iv³ m†ebv†K bvKP Kivi Ńgwk w`†Q Rj evqy cwi eZ†bi ev`eZv| Rj evqy cwi eZ† GLbKvi Pj gvb mSK†Ui A†bK_†j v†KB Nbx†Z Ki†e| evqgŮ†j KveŃ–WwB–A· vBW M`v†mi NbZ†te†o †M†j Ń hv wKbv Rj evqy cwi eZ†bi cŃwb AbNUK Ń MvQcvj v I k†m`i Rb` m†avi bfv†e tmiU m†vqKB nevi K_v| wKš` Rj evqy cwi ewZŹ n†j we††ki Mo Zvcgv†v GKb mv†_ evot†e| weÁvbw†wĚK M†el Yv ej †Q, Mo Zvcgv†v eZŃv†bi Zj bvq 2µ tmj wmqvm ev Zvi I tekx evot†j km`vbvi Drcv` b wecj fv†e e`vnZ n†e (Kwi g I Ab`iv, 1998)|

evsj v††ki cwi ŃgvÁj Ggv††ZB LivcĚY| Rj evqy cwi eZ†RwbZ Livi Kvi†Y i K†bv (iwe) tgšm†gi Kwl Kv†R Zxe† †bwZevPK Av†NvZ †b†g Avm†e| Mg I AvDk Drcv` b e`vcK nv†i K†g hv†e| GQrov evsj v††ki epĚi ivRkvnx I Kwi qv AA†j i e`vcK Gj vKvq tev†iv av†bi cŃ`^ b G†ZvUvB evot†e th Liv cĚbZv gvSvix ††K Zxe† AvKvi avib Ki†e| tm†Pi cŃqvRb G†ZvUvB evot†e th f–Mf^Ń Rj var†i i Dcwi Zj µgkt wggg†x n†e Ges eZŃv†b cŃw†j Z `† M†xi Zvi tm†Pi cv†ú_†j v fwe††Z Kv†Rw†i Zv nwi†q †dj †e| f–Mf^Ń cwb cŃŃi mv†c†¶ ¶†i cŃšK Pvlxi c†¶ j v†RbK Dc†v† Liv tgvKv†ej v K†i tev†iv Avev` m†e n†e bv| Gi †bwZevPK c†ve i agv† cŃšK Pvl†`i DciB bq, mvgwM†K Lv` wbi vcĚvi Dci I co†Z eva`|

mg†`† Dcwi Z†j i Ńw†Z NU†j me†††q te†k ¶†q¶wZ n†e DcKj xq K.L.K†i i | DcKj xq Gj vKvi b`x_†j vq j eYv³ Zv Avb†w†Kfv†e DRv†bi w`†K evot†Z `vK†e| j eYv³ Gj vKv ††ki w†Z†i eŮ`† chš–we`Z n†e| j e†Yi cŃKv†c cŃw†j Z Kwl Zxe†fv†e ¶wZMŮ–n†e| `w¶Y–cwi Ń†gi eŮ` Gj vKvq cŃw†j Z tev†iv av†bi Avev` Kiv hv†e bv| DcKj xq Gj vKvi b`x†Z j eY Av†Ńek Kivq b`xi cwb w`†q tmP †`qv hv†e bv, ††j i K†bv tgšm†gi dmj Drcv` b j ¶†bxq ch††q K†g hv†e (nw†eej w I Ab`iv, 1998; wBw†RAvBGm, 2006)|

tgšm†g evqy cŃv†n kw³kvj x n† qvi †††nZ† eo eb`vi c†c†šwbKZv I e`wšKvj (w†w†Z†) D†qB evot†e, D`Pd† bkx† Avgb P††i i Rb` Zv m†m`v m†Ń Ki†e| av†bi †¶†Z eb`vi cwb†Z W†e `vK†j bZb KwP P†vi i Rb` Zv m†nbxq bq, ††j Avg†bi Drcv` b A†bKUV Kg n†e| Gai†bi eb`v Nb Nb n†j gnwec` Ń we††k† K†i Lv` Drcv` †bi weP†i |

††ki `w¶b–cwi ŃgvÁj Rj v†xZvi c†ve cŃZeŃi evot†Q, bZb bZb Gj vKv Rj v†x n†q Kwl i Rb` Av†c††hvMx n†q co†Q| wKŃw`KŃw` Gj vKvq weMZ AvU eQ†i I Kwl R Drcv` b m†e nqwb| Rj evqy cwi eZ† I mg† Z†j i Ńw†Z

Rj ve×Zvi c0Kvc emotq Ztj Avmvs-Gj vKvq dmtj i mæbebv bó Kite (Avntg` I Ab`iv, 2007)| Hme Gj vKvq Kwl Rwg thLvfb cwbi bxp, dmj Kivi mthvM tKv_vq?

GQrov Avtiv GKwU `w0Shi K_v Dtj EthvM`| Mo Zvcgviv evotj Zv gwLi `Re Kveþbi ¶q c0YZv evotþe (Kwi g I Ab`iv, 1998)| Kwl weÁvbx`i msÁvbjvqx G aiþbi msKtU t`tki tekvi fvM Kwl RwgB úgnKi gþL cotq| Rj evqycwi eZ0 GB SmkþK Drcv`b SmkþZ cwi YZ Kite|

Gt`tki tekvi fvM gvbj Kwl KtgP Dci wbfPkj | Rj evqycwi eZ0RwbZ mgm`vq Kwl e`vcKfvte ¶wZM0`nte| thþnZi fvcl`tZ RbmsL`v eZ0vþbi Zj bvq teto hvte, Kwl chP`-ntj Zv `vni t`i we`wZ NUvtZ cvti | AvksKv Kiv ntq0 th, Kwl tZ bZb Kgms`vþbi e`tj Rj evqyZwioZ teKvi Zj t`Lv w`tZ cvti |

thþnZi bvbv aiþbi bZb Smk fvcl`tZi wbi tL mveR Drcv`b tK e`vnZ Kite, ZvB Rj evqycwi eZ0þi mvtcþ¶ Lv` wbi vcevi vel qw bwiZwbaþþbi t¶t¶ µgktB `i`ZcY0ntq DVt0| Gi cwi t0¶tZ Avgv` i Ki Yxq wntmte wþbþ³ KtqKwU vel q Dtj E-Kiv hvq|

- Drcv`b evotþvi tKvb weKí tbB| Kwl Rwgj mstKvPb mtEj| Drcv`b ep×tZ gtþthvMx ntZ nte| Gt¶t¶ - K) t`kxq t0¶tZ wetePbvq DbZ`Zi RvZ D`w0eb, wbi x¶v I mæcþvi Y - Gme KvþR AwakZi c0Yv`bv Ges A_0qb AwZ Ri`ix (Avntg`, 2000)| A_0qþbi t¶t¶ hZteKx mæe iv0tq AskM0b (I e`e`vcbv) evotþZ nte, hvþZ MtelYvj ä djvdj c0SK K.LKt`i Rb` e`envi DcþhVx Kiv hvq| bZev tjvfx eúRwZtKi Làto cto µgkt wbt`Zi ntZ `vKte t`tki `wi`K.LKKj |
L) Drcv`b mnvqK DcKiY wecbþb iv0tq mthvM-mjeav h_vmæe evotþZ nte| Gt¶t¶ t`tk c0þe` c0KwZK M`vm tKvb tKvb LvþZ KZUKz e`eüZ nte, weþkl Kti BDwi qv mvi Drcv`þbi t¶t¶, `xN0gqww fvte Zvi AM0waKvi GLbB wbaþþb Ki tZ nte Ges Gt¶t¶ RvZxq HK`gZ` wv0Z Ki tZ nte|
M) DcKiY msi ¶¶Y I mggqþZv evRvi wfvEK eUþbi t¶t¶ Nwbófvte chþ¶b I Z`vi wK (gvbUwis) evotþZ nte Ges wecbb/eUþbi evavmga `*Z w0úwE Ki tZ nte|
N) Drcv`b thþnZi DÈtivEi DcKiY-Nb ntq DVte, Gt¶t¶ `vbxq chþq c0ekMg`Zv evotþZ iv0tq mjeav` i we`wZ NUvtZ nte|
O) t`kxq mveR Drcv`b hvþZ Kwl R Ryj vbx (GtM0dþqj) mæcþvi tYi Làti bv cto, GRb` G0vel qK iv0tq bwiZ cwi gvR0/cwi ea0 Ki tZ nte| hw` GB e`emvþK `wMZ RvbtZB nq, th tKvb aiþbi Abþgv`b t`qvi AvtM Zv h_vh`fvte wbi w¶Z nI qv c0qvRb (wm.Gm.Avi.Gj., 2008)| Gt¶t¶ Xijvi Abþgv`b Lv` wbi vcevi tK wv0ZfvteB úgnKi gta` t0j te| tKbbv Lv` Drcv`þbi c0qvRbxq Rwgj cwi gvY Avtiv Ktg hvte|
- Pig Avenvi qwMZ cwi w`wZ tgvKvteþvq chþµtq Ggb KvþRix e`e`v wþZ nte hvþZ ¶q¶wZi gviv Kg I mnbxq nq| AvMvg mZKZvgj K e`e`v I ceþfvI mggqZ t`l qv tMþj Pwlv weKí km` Drcv`þb eZx nteb, ¶q¶wZ Kg nte (Avntg`, 2005)| GQrov j eYv³Zv-, Liv- I eb`v-mw0yktm`i RvZ D`w0eb Kiv tMþj Drcv`b Kg tZv nteB bv, eis evotþv mæe nte|
- c0SK RbþMv0xi Lv` m%U tgvKvteþvq eZ0vþbi mvgwRK wbi vcevi Kg¶Px`tj vþK msKwPZ bv Kti eis chþµtq we`Z Ki tZ nte (Avntg`, 2007)| Rj evqycwi eZ0þi Kvi tY thme Gj vKvq `þhþMi gviv evotþe, tmLvfb Lv` msiv¶¶YwMvi `tjv úgnKi gþL cotZ eva`| Gt¶t¶ Kg SpKcb0`vþb bZb msi ¶¶YwMvi Mto Zj tZ nte| GQrov tekx SpKcY`Gj vKvq `Z thvMvthvþMi AeKvvtgv Mto Zj tZ nte|

- mvgwRK wbi včEv ej q Kvhrix ivLčZ thtnZiLv` gRy Mto tZjv AZ`vek`K, mVK`chf`q Av`Aj K Lv` gRy Mto tZjvi cŃweZ mthvMčK AvkyKvčR cwiYZ Kivi KY%buZK ZrciZv evovčbv cŃqvRb (Avntg`, 2007) | Gt`f`f` evsj vč`k Dč`vMx fvgKv vbtj Zv GŃ`tkiB`wi`gvbčf`i cŃqvRčb tenk j vMče |
- msnké-gšpvj q I cŃZŃvb, tj vi e`vcbvq GKwU Uv`čdvm`Kvhrwi ivLv thčZ cvti, hviv t`tki Lv` wbi včEvi mvt` msnké-Avg`vbx vbf` cY`w`i (DcKiY mn) Drcv`b, Pwn`vi avivmug, gj` cwi w`wZ, BZ`w` wewa wel tq wbcvqZ AvMvg chf`Y Kičeb I cŃZč`b`vLj Kičeb | Gt`f`f` GB cŃZč`b Lv` wbi včEvi wel qK msm`xq Kvgwji KvčQ Ges Lv` I`hM gšpvj tq wbcvqZ tčŃY KičZ nte hvčZ AvMvg mZKčvgj K e`v`v`čbqv m`čeci nq |

Z`mč

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