‡Kvqv›Uvg †gKvwb‡·i A™¢zZ RMr

Ebwesk kZ‡Ki †k‡li `kK¸‡jv‡Z e`‡j †h‡Z ïiæ Kij Avgv‡`i †Pbv-Rvbv c„w\_ex| cwieZ©bUv NUj eo-‡QvU `yB RM‡ZB| GKw`‡K B\_v‡ii aviYv wejywß I Av‡jvi †e‡Mi aªyeZv µgk Rb¥ w`j Av‡cwÿKZv Z‡Ë¡i| c„w\_ex I gnvwek^ bZzb iƒ‡c aiv w`j gvby‡li †Pv‡L| †m GK we¯§q RvMv‡bv iƒc| Z‡e Zvi †P‡q eo we¯§q n‡q Gj †Kvqv›Uvg †gKvwb·| AvRe AvRe NUbvi Rb¥ w`‡Z `yBwU ZË¡ †hb G‡K Ac‡ii mv‡\_ †Ljvq †g‡Z IVj| wbw`©ó mgq c‡i `yB hg‡Ri eqm Kg-‡ewk n‡e e‡j Av‡cwÿZv hw` ZvK jvwM‡q †`q, Z‡e AviI †ewk ZvK jvwM‡q †`‡e GKB KYvi GKB mv‡Z `yB Avjv`v c‡\_ Pjvi NUbv| wKsev, ejv †bB, KIqv †bB, nVvr K‡i †fvRevwRi g‡Zv k~b¨ †\_‡K cq`v n‡q †Mj Av¯Í GKwU KYv! Ggb AviI bvbvb AvRe NUbvi R‡b¨ †Kvqv›Uvg †gKvwb· Lye weL¨vZ| c`v\_©we` wiPvW© dvBbg¨vb †Zv e‡jwQ‡jb, ÔAvgvi g‡b nq, Avwg wbwð‡šÍ ej‡Z cvwi, †KDB †Kvqv›Uvg †gKvwb· †ev‡Sb bv|Õ

Z‡Ë¡i ïiæ †gvUvgywU g¨v· cø¨v‡¼i nvZ a‡i| Ebwesk kZ‡Ki gvSvgvwS mg‡q K…òe¯‘i wewKiY wb‡q GKwU mgm¨v wQj weÁvb RM‡Z| †m mgq Av‡jv we`yr-‡PŠ¤^Kxq Zi½ wn‡m‡e cwiwPZ wQj| me wKQz e¨vL¨v Kiv nZ g¨v·I‡q‡ji mgxKiY w`‡q| Av‡jv‡K wbQK Zi½ a‡i wb‡q| wKš‘ bZzb bZzb DcvË‡K e¨vL¨v Ki‡Z µgvMZ e¨\_© nw”Qj g¨v·I‡q‡ji mgxKiY¸‡jv| 1900 mv‡ji K\_v| cø¨v¼ ZLb g¨v·I‡q‡ji QvÎ| cixÿvq GKwU cÖ‡kœ K…òe¯‘i wewKiY e¨vL¨v Ki‡Z ejv n‡jv| cø¨v¼ GK `ytmvnmx KvR K‡i em‡jb| GZw`b hv‡K Zi½ e‡j Avmv n‡”Q, Zv‡KB wKbv wZwb KYv wn‡m‡e ai‡Z †M‡jb!

ej‡jb, we`yr-‡PŠ¤^Kxq kw³ wbM©Z nq wew”Qbœ ¸”Q AvKv‡i| GB ¸‡”QiB bvg †Kvqv›Uv| wZwb ej‡jb, cªwZwU †Kvqv›Uvi kw³ wbf©i K‡i ïaygvÎ Gi K¤úv‡¼i Ici| Av‡M g‡b Kiv nZ, †Kv‡bv e¯‘ †\_‡K me K¤úv‡¼i Zi½ mgvb nv‡i wbM©Z nq| wKš‘ †mUv n‡j e¯‘ †\_‡K wbM©Z kw³i cwigvY nq Amxg, hv Am¤¢e| GUvB wQj weL¨vZ K…òe¯‘ wewKiY mgm¨v| cø¨v¼ ej‡jb, eo K¤úv‡¼i Zi½ A‡cÿvK…Z Kg wbM©Z nq| †Kb? KviY n‡jv, h‡\_ó eo K¤ú‡¼i †ÿ‡Î GKwUgvÎ †Kvqv›Uvi kw³B e¯‘‡Z Dcw¯’Z †gvU kw³i †P‡q †ewk| d‡j, †ewk K¤úv‡¼i (gv‡b †ewk kw³i) wewKiY wbM©Z nq Lye Kg| d‡j wbM©Z wewKi‡Y kw³ Amxg Avi nq bv| Gfv‡eB cø¨v¼ eo GK mgm¨vi mnR mgvavb Ki‡jb| Z‡e cø¨v‡¼i Av‡M †evjRg¨vbI 1887 mv‡j wew”Qbœ kw³¯Í‡ii K\_v e‡jwQ‡jb|

hvB †nvK, c‡ii `kK¸‡jv‡Z ZË¡wU‡K mg„× Ki‡jb †evi I Zvui wkl¨iv| Ae`vb Av‡Q AvBb÷vB‡biI| D‡jøL‡hvM¨ Ae`vb Av‡Q wW eªMwj, g¨v· eb©, wWivK, nvB‡RbevM©, cvDwj, ¯ªwW½nvi I dvBbg¨vb‡`iI| ZZw`‡b †Kvqv›Uvg †gKvwb‡·i AvRe AvRe Kv‡Ð mevi †PvL Qvbveov| AvBÝUvBb †Zv †Kvqv›Uvg Z‡Ë¡i weiæ‡×B P‡j †M‡jb| †m wb‡q †ev‡ii mv‡\_ i‡q‡Q KZ gyL‡ivPK Kvwnwb|

**wØ-wPi cixÿv I KYv-Zi‡½i eû iƒc**

GKwU †`qv‡j `ywU wQ`ª Av‡Q| †`qv‡ji Aci cv‡k Av‡Q GKwU c`v©| GLb †`qv‡j Av‡jv †dj‡j `yB wQ`ª w`‡q Avmv Av‡jv c`v©q Av‡jv-Qvqvi GKwU bKkv ˆZwi Ki‡e| Rvbv K\_v| †Kv\_vI Lye AÜKvi, †Kv\_vI Lye D¾¡j| †Kv\_vI Gi gvSvgvwS Ae¯’v| GLb K\_v n‡jv, Av‡jvi e`‡j B‡jKUªb wb‡ÿc Ki‡j Kx n‡e? c`v©i ïay wQ`ª eivei ¯’v‡bB B‡jKUª‡bi av°vi †ik \_vKvi K\_v| wKš‘ bv, GeviI bKkv cvIqv †Mj| AviI A™¢zZ K\_v n‡jv, GK SvuK B‡jKUª‡bi e`‡j hw` GKwUgvÎ B‡jKUªbI wb‡ÿc Kiv nq, ZeyI cvIqv hvq bKkv| Zvi gv‡b B‡jKUªbwU GKB mv‡\_ `y‡Uv wQ`ª w`‡qB hv‡”Q! wVK ZvB| †mUv m¤¢e n‡”Q KYvwUi Zi½agx© AvPi‡Yi R‡b¨| GB cixÿvi gva¨‡gB Rvbv hvq, KYvivI Zi‡½i g‡Zv AvPiY Ki‡Z cv‡i| \_gvm Bqs 1801 mv‡j cÖ\_g cixÿvwU cwiPvjbv K‡ib| Z‡e †m mgq Gi g~j ¸iæZ¡ †evSv hvqwb| cieZx©‡Z 1924 mv‡j wW eªMwj cÖgvY K‡ib, mKj Ro c`v\_© Zi‡½i g‡Zv AvPiY Ki‡Z cv‡i|

AwbðqZv bxwZ:

G bxwZ Abymv‡i †Kv‡bv KYvi Ae¯’vb I MwZ‡eM GKB mv‡\_ wbLyuZ K‡i gvcv hv‡e bv| G `y‡Uv ˆewk‡ó¨i GKwU hZ fv‡jvfv‡e ciwgvc Kivi †Póv Kiv n‡e, AciwU n‡q co‡e ZZB AwbwðZ| mvaviYfv‡e KYvi Ae¯’vb I †e‡Mi K\_v ejv n‡jI AviI A‡bK¸‡jv weRwoZ ivwki R‡b¨ G bxwZU cÖ‡hvR¨| ‡hgb KYvi kw³ I ¯’vwqZ¡, wewfbœ A‡ÿi w`‡K N~Y©b, †Kv‡bv †ÿ‡Îi kw³ I Zvi cwieZ©b BZ¨vw`|

‡Kv‡bv KYvi Ae¯’vb ev †eM Rvbvi R‡b¨ KYvwU‡K ch©‡eÿY Ki‡Z nq| Avi †mUv Kivi R‡b¨ Av‡jv †dj‡Z nq †mwUi Ic‡i| wKš‘ KYvi AvKvi †h‡nZz †QvU, ZvB Gi Ae¯’vb wbLyuZfv‡e Rvb‡Z †QvU Zi½‰`‡N©i Av‡jv `iKvi| KviY, Zi½‰`‡N¨©i cwigv‡Yi †P‡q m~² K‡i KYvi Ae¯’vb Rvbv hvq bv| GKb †QvU Zi½‰`N©¨ gv‡b D”P K¤úv¼| D”P K¤úvc&K gv‡b D”P kw³| Zvi gv‡b m~ÿ Ae¯’vb Rvb‡Z n‡j †ewk kw³i Av‡jv †dj‡Z n‡e| wKš‘ †ewk kw³i GB Av‡jv KYvwU‡K A‡bK †ewk D‡ËwRZ Ki‡e| d‡j Gi Ae¯’vb Rvbv †M‡jI †eM n‡q co‡e AwbwðZ| Avevi †e‡Mi AwbðqZv Kwg‡q A‡a©K Ki‡Z PvB‡j Ae¯’v‡bi AwbðqZv n‡q hv‡e wØ¸Y|

‡Kvqv›Uvg Gb‡U‡½j‡g›U

AvBb÷vBb e¨½ K‡i ej‡Zb Õ¯úywK A¨vKkb A¨vU A¨v wWm‡UÝÕ ev Õ`~i †\_‡K fÕZz‡o KvÐÕ| †Kvqv›Uvg Gb‡U‡½j‡g›U ev †Kvqv›Uvg weRob cÖwµqvi D™¢U djvdj wb‡qB Zvui GB e³e¨|

K\_vUvi gv‡b n‡jv, `ywU weRwoZ KYv A‡bK `~‡i Ae¯’vb K‡iI ci¯úi wbf©ikxj ˆewk‡ó¨i AwaKvix n‡Z cv‡i| G‡K Aci †\_‡K hZ `~‡iB \_vKyK, G‡Ki Ae¯’vb, fi‡eM, N~Y©b BZ¨vw` cy‡ivcywi A‡b¨i Ici wbf©i K‡i| †nvK Zviv kZ kZ †KvwU Av‡jvKel© `~‡i Aew¯’Z| g‡b Kiæb, †Kv‡bv ùwUK †\_‡K GKwU †jRvi iwk¥ wbwÿß n‡jv, hv GKwUgvÎ †dvUb KYv‡K †f‡O `y‡Uv weRwoZ KYvq cwiYZ Ki‡Z cv‡i| GLb `y‡Uv †dvUb hw` `yw`‡K iIqvbv n‡q hvq, †cŠu‡Q hvq jÿ †KvwU Av‡jvKel© `~‡iI, Zey GKwUi †h‡Kv‡bv ˆewkó¨ cwigvc Kiv gvÎB AciwUi ˆewkó¨ Rvbv hv‡e| †hgb GKwU hw` w¯úb-Avc KYv nq, Z‡e wbwðZ K‡i ejv hv‡e, AciwU n‡jv w¯úb-WvDb KYv| hw` Rvbv hvq, GKwU Nyi‡Q Nwoi KvuUvi w`‡K, Z‡e mv‡\_ mv‡\_ e‡j †`Iqv hv‡e, AciwU Nyi‡e Nwoi KvuUvi D‡ëv w`‡K| Zv‡`i `~iZ¡ GK †mw›UwgUvi †nvK wKsev Zviv gnvwe‡k^i `yB Avjv`v cÖv‡šÍB \_vKzK †mUv we‡eP¨ bq| GLv‡bB AvBb÷vB‡bi †Nvi AvcwË| Zvui g‡Z, GKwU KYvi wKQz NU‡j Zvi cÖwZwµqv ZvrÿwYKfv‡e Ab¨wUi Ici co‡Z cv‡i bv|

KviY, (AvcvZ `„wó‡Z) jw•NZ n‡”Q Av‡cwÿKZv Z‡Ë¡i Ab¨Zg GKwU bxwZ| †Kv‡bv Z\_¨B Av‡jvi †P‡q †ewk †e‡M †h‡Z cv‡i bv| wKš‘ 1964 mv‡j c`v\_©we` Rb †ej Zvui Õ‡ej AmgZvÕi gva¨‡g cÖgvY K‡ib, KYviv Ggb ci¯úi-m¤úK©hy³ AvPiY Ki‡Z cv‡i| hw`I Zviv \_v‡K eû eû `~i| †h `~i‡Z¡ Av‡jvi †P‡q `ªæZ †Kv‡bv Z\_¨ †cŠuQ‡Z cvivi †Kv‡bv K\_v bq| DcišÍ cÖgvY K‡ib, Ggb NUbv NU‡Z †Kv‡bv mgqB jv‡M bv| d‡j `~iZ¡ †Kv‡bv cÖfveB ivL‡Z cv‡i bv G‡ÿ‡Î| Avm‡j, †Kvqv›Uvg weRob Av‡cwÿKZv bxwZi weiæ‡× hvq bv| KviY, Av‡cwÿKZvi ZË¡ Abymv‡i, †Kv‡bv ¯’vb †\_‡K Ab¨ ¯’v‡b Av‡jvi †P‡q `ªæZ Z\_¨ mieivn Kiv m¤¢e bq| Avi †Kvqv›Uvg weRob cÖwµqvq Z\_¨ †cÖiY Kiv nq bv| G †KŠkj Kv‡R jvwM‡q wVK Av‡jvi †P‡q `ªyZ Z\_¨ †cÖi‡Yi KvR m¤¢e bq|

cieZx©‡Z AmsL¨ cixÿvq †ej AmgZvi c‡ÿ cÖgvY cvIqv †M‡Q| cÖ\_g cixÿvwU cwiPvjb

‡Kvqv›Uvg d¬vKPz‡qkb

GwU AwbðqZv bxwZiB GKwU djvdj| Av‡MB e‡jwQ, bxwZi GKwU D`vniY n‡jv †Kv‡bv †ÿ‡Îi kw³ I Zvi cwieZ©b| Avgiv hv‡K k~b¨¯’vb ewj, A\_v©r, †hLv‡bv †Kv‡bv c`v‡\_©i Aw¯ÍZ¡ †bB, †mUvI Avm‡j wVK k~b¨ bq| AwbðqZv bxwZ Abymv‡i †ÿ‡Îi kw³i gvb I Zvi cwieZ©b GKB mv‡\_ mwVK K‡i Rvbv hv‡e bv| Zvi gv‡b, k~b¨¯’v‡bi †Kv‡bv †ÿ‡Îi gvb I cwieZ©‡bi nvi GKB mv‡\_ k~b¨ nIqv m¤¢e bq| `y‡UvB k~b¨ nIqv gv‡b †Zv GKB mv‡\_ `y‡UvB wbLyuZfv‡e Rvbv n‡q †Mj| hv Am¤¢e|

d‡j, Avgiv hv‡K k~b¨¯’vb ewj †mLv‡bI AweiZ ˆZwi n‡”Q †Rvovq KYv| G¸‡jv‡K ejv nq fvPz©qvj KYv|Avi G cÖwµqvi bvgB †Kvqv›Uvg d¬vKPz‡qkb| GK mv‡\_ ˆZwi nq GK †Rvov weciwZ Pv‡R©i KYv| m„wói cig~û‡Z©i Avevi Giv G‡K Aci‡K wejxb K‡i †`q| cj wWiv‡Ki Avwe®‹…Z KYv-cÖwZKYvi ag© Abymv‡i|

msiÿYkxjZv bxwZ j•Nb:

wPivqZ c`v\_©weÁvb Abymv‡i kw³i m„wó ev aŸsm m¤¢e bq| m¤¢e ïay iƒcvšÍi| wKš‘ Am¤¢e‡K m¤¢e KivB †Kvqv›Uvg †gKvwb‡·i KvR| fvPz©qvj KYv ˆZwii mgqB KYv¸‡jv ˆZwii R‡b¨ kw³ cvq †Kv\_vq? Giv mgvwqK mg‡qi msiÿYkxjZv bxwZ f½ K‡i| avi K‡i wKQz kw³| Aí mgq c‡i Avevi wejxb nIqvi gva¨‡g wdwi‡q †`q †mB kw³| Z‡e evB‡i †\_‡K kw³ mieivn Kiv n‡j fvPz©qvj KYv ev¯Íe KYvq cwiYZ n‡Z cv‡i|

‡Kvqv›Uvg Uv‡bwjs

Pj‡Z Pj‡Z Avcbvi hw` GKwU cyiæ †`qvj G‡m hvq, Zvn‡j Avcbvi hvÎv ILv‡bB †kl| wKš‘ AwZcvigvYweK KYviv Avcbvi g‡Zv nvj Qvovi cvÎ bq| GKwU cÖwZeÜ‡Ki †cQ‡b AvUKv cov †Kv‡bv KwYKv‡KI cÖwZeÜ‡Ki Aci cv‡k †`Lv hv‡e Zvi GKwU Ak~b¨ m¤¢vebv i‡q‡Q| GUvI KYv-Zi‡½i ˆØZ AvPi‡Yi dj| KYvi R‡b¨ KvRwU hZ KwVb, Zi‡½i R‡b¨ ZZUv bq| †ZRw¯Œq ÿq cÖwµqv m¤úbœ nq GB Dcv‡qB| wbDwK¬qvm †\_‡K †ewi‡q c‡o Avjdv KYv|

cwigv‡ci Av‡M Aw¯ÍZ¡nxb?

AvBb÷vBb ej‡Zb, ÔZvn‡j Avgiv hLb ZvwK‡q \_vwK bv, ZLb wK AvKv‡k Pvu` \_v‡K bv?Õ K\_vUv Pvu‡`i R‡b¨ mZ¨ bv n‡jI AwZcvigvYweK RM‡Z wKš‘ mZ¨| ch©‡eÿ‡Yi AvM ch©šÍ KYvi Aw¯ÍZ¡B \_v‡K bv| 2015 mv‡j bZzb Av‡iKwU cixÿvq cÖgvwYZ nq GB K\_v| Aw÷ªqvb c`v\_©we` A¨vÛªy UªvmKU bZzb K‡i Gi cÖgvY †`b| wZwb e‡jb, ÔcwigvcB mewKQz| bv ZvKv‡bv ch©šÍ †Kvqv›Uvg ¯Í‡i ev¯ÍeZv ej‡Z wKQzB †bB|Õ Zvui `j cixÿvwU Pvjvb wnwjqvg cigvYy w`‡q|

m~Î: A¨v weªdvi wnw÷ª Ae UvBg/w÷‡db nwKs, Gdb¨vj WU wRIwf, BDAwiRb WU GRy, wWmKfvi g¨vMvwRb, wbD A¨vUjvm WU Kg, DBwKwcwWqv|

<http://newton.ex.ac.uk/research/qsystems/people/jenkins/mbody/mbody2.html>

* <https://en.wikipedia.org/wiki/History_of_quantum_mechanics>
* <http://home.fnal.gov/~pompos/light/light_page28.html>
* <http://abyss.uoregon.edu/~js/21st_century_science/lectures/lec13.html>
* <http://discovermagazine.com/2005/jun/cover>
* https://newatlas.com/quantum-theory-reality-anu/37866/