

PHILOSOPHY ΦΙΛΟΣΟΦΙΑ

Nephrology's history is alive and well and helps predict the future

If there can be “love in the time of cholera”, then there can be history of kidney medicine in the time of COVID-19. In our article, we celebrate the history of nephrology, which unites curious young minds with the legacy built by senior figures of the discipline. Notably, technological advances such as the Internet have made nephrology history more accessible to a wide range of audiences, including young students and physicians in training. The interest that continues to prevail for the field ensures that the future of kidney medicine is bright and bound to expand in new directions. We can treat the past and the future with equal precision and rigor under the umbrella of history. One can describe a symmetrical timeline with 193 years back to Richard Bright’s book in 1827, and 193 years forward to 2213 the point when some expect that human consciousness will be routinely uploaded to inorganic substrates. But for now, we shall seek to excavate the past to have a better idea of where we’re going and how to achieve desired outcomes, which is especially important in a time of global health emergency, where we are all fighting a single enemy, COVID-19.

INTRODUCTION

Despite the quotation at the head of this article, Dr. Eknoyan was pessimistic about the declining place of historical stories in medical education in his 2016 editorial.¹ However, in the opinion of young people who we speak to today, the history of nephrology is perhaps the most interesting history of any medical specialty. In contrast to the apparently reduced interest of medical journals, if one searches for “history of nephrology” or “history of transplantation” on social media, the resources found are

pleasing and memorable, with images and videos that seem to jump off the page or screen to directly engage the senses (tables 1, 2). Yet, in the meetings of the International Association for the History of Nephrology, one gets the impression that it is a small niche discipline forgotten by the rest of the world.

In the world at large as seen by young people and the young at heart, the history of nephrology is vibrant and interesting, with new resources appearing all the time and accessed by many people (tables 1, 2). It is those connections to young people and the future that will ensure the success and longevity of the discipline.

Medical history is not a discrete set of archaic facts, but rather a relationship between medical historians in the present and the people and events of the past. From the beginning of historical writing, the endeavour has usually served two purposes: to answer the questions of the present about the past; and to account for the past in such a

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Περίληψη στο τέλος του άρθρου

Key words

History of Nephrology
Medical education
Richard Bright
Technological singularity
The future

“History maketh a young man to be old, without either wrinkles or grey hairs; privileging him with the experiences of age, without either the infirmities or inconveniences thereof.

Yea, it not only maketh things past, present; but enableth one to make a rational conjecture of things to come.”

Thomas Fuller 1608–1661.¹

Table 1. Popular history of nephrology resources readily found by searching.

https://www.youtube.com/playlist?list=PLS1ZP4out6bM__j9_rxTgy4V_aoTNPfpu Video Legacy playlist

<https://ajkdblog.org/2017/03/07/nephmadness-2017-history-of-nephrology-region/>

https://resident360.nejm.org/content_items/419

<http://historyofnephrology.blogspot.com/2016/10/renal-biopsy-becomes-mainstream-1954.html>

<http://historyofnephrology.blogspot.com>

<http://historyofnephrology.blogspot.com/?view=flipcard>

<http://historyofnephrology.blogspot.com/?view=magazine>

http://2.bp.blogspot.com/_X3TyLb9XrMM/SZ2IU7QzFal/AAAAAAAAAY/A8vPoB8Du6o/s1600-h/kidneyfactoryBethShorttA.jpg

<https://hekint.org/2017/01/30/history-of-nephrology-modern-era/>

<https://hekint.org/2017/01/30/history-of-nephrology-beginnings/>

<https://web.archive.org/web/20190701170527/http://www.renalmed.co.uk/history-of-nephrology>

[https://www.kidney-international.org/article/S0085-2538\(15\)55080-1/fulltext](https://www.kidney-international.org/article/S0085-2538(15)55080-1/fulltext)

http://www.era-edta.org/history/A_Timeline_of_the_History_of_Nephrology.pdf

Table 2. Popular history of transplantation resources found by searching.

<https://www.organdonor.gov/about/facts-terms/history.html>

<https://www.myast.org/about-ast/who-we-are/timeline> History of AST

<https://unos.org/transplant/history/>

<https://asts.org/about-asts/history#.XkbuZi0ZOjg>

<https://asts.org/docs/default-source/presidential-address/kahan-presidential-address.pdf?sfvrsn=2>

https://www.youtube.com/user/ttscommunications/videos?view=0&sort=dd&shelf_id=1 TTS

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3684003/>

<https://futurism.com/images/a-timeline-of-organ-transplant-milestones>

https://timelines.issarice.com/wiki/Timeline_of_organ_transplantation

<https://www.amazon.com/History-Transplantation-Recollections-Paul-Terasaki/dp/0960460675>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3684003/> Clyde Barker History of Transplantation 2013

<https://muse.jhu.edu/book/14856> David Hamilton History of Organ Transplantation 2012

<https://asts.org/docs/default-source/about-asts/presidential-remini-scences.pdf?sfvrsn=2>

way that it serves as a guide for the *future*, providing a set of exemplars to emulate and avoid as we face new challenges that resemble, in part, the challenges of the past.

Fundamentally, we need to think about how history connects the past to the present and to the future. If there are 193 years to account for between today and Richard Bright's 1827 book, we need to envision a symmetrical timeline where the 193 years back to Bright's book are balanced by 193 years into the predicted future. The history of nephrology must contemplate the question: where are we going? The first author Kim Solez successfully predicted the Translatotron in a presentation about Boundaries and Ethics in cyberNephrology² in February 2009 (tab. 5), and there are still many advances around the corner that can be understood in connection to the development of our discipline in the 19th and 20th centuries. Soon, we will have organs generated from the patient's stem cells, and this development should be understood by medical historians in continuity with the first "artificial kidneys" from decades ago.

Presentation is also important. At the meetings of the International Association for the History of Nephrology (such as the 2019 meeting in Larissa, tab. 3) dated PowerPoint templates are favoured, where the screen is mainly solid colours and the text then subtracts from the theme colours (tab. 4). This is quite the opposite of the more uplifting minimalist PowerPoint templates favoured by young

Table 3. Videos from IAHN meeting in Larissa, Greece in September 2019.

<https://www.youtube.com/watch?v=GPACpUXJo4Q> Solez

<https://www.youtube.com/watch?v=j57MAprvPP4> Eknoyan

<https://www.youtube.com/watch?v=rDXeBINRkAE> Cameron

<https://www.youtube.com/watch?v=lwwfvpjL8Y> George

<https://www.youtube.com/watch?v=U68jnXDrlPY> Stefanidis

<https://www.youtube.com/watch?v=DnNDDqm3ZUE> Phillips

Table 4. History of presentations. Before PowerPoint.

<https://visme.co/blog/evolution-of-presentations/> 2020

<https://www.youtube.com/watch?v=suRDUFpsHus> Mad Men 2008 The Carousel

<https://www.duarte.com/presentation-skills-resources/back-to-the-future-slides-before-powerpoint/>

<https://computerhistory.org/blog/slide-logic-the-emergence-of-presentation-software-and-the-prehistory-of-powerpoint/> 2016

<https://archive.computerhistory.org/resources/access/text/finding-aids/102733943-Austin/102733943-Austin.pdf>

<https://www.robertgaskins.com/powerpoint-history/sweating-bullets/gaskins-sweating-bullets-webpdf-isbn-9780985142414.pdf> 2012 (25th anniversary of PowerPoint)

Table 5. Translatotron links.

https://www.slideshare.net/ksolez/kim-solez-boundaries-and-ethics-of-cybernephrology-feb-2009-boundaries-ethics-2 First author predicts Translatotron in 2009 (slide 27)
https://ai.googleblog.com/2019/05/introducing-translatotron-end-to-end.html
https://google-research.github.io/lingvo-lab/translatotron/
https://bigthink.com/surprising-science/translatotron
https://www.youtube.com/watch?v=tKwK8GHLYOo
https://www.theverge.com/2019/5/17/18628980/google-ai-translation-tone-cadence-voice-translatotron
https://techcrunch.com/2019/05/15/googles-translatotron-converts-one-spoken-language-to-another-no-text-involved/
http://languagehat.com/translatotron/
https://medium.com/syncedreview/google-ai-translatotron-can-make-anyone-a-real-time-polyglot-e7b6d616f5d2
https://www.youtube.com/watch?v=38ZXwJj6j8k (June 20, 2019)
https://www.androidpolice.com/2019/05/16/google-introduces-direct-speech-to-speech-translation-technology-it-calls-translatotron/

people today, where most of the screen is white until text and graphics are added. Putting the history of nephrology into such new-style templates brings a much more positive feeling to the whole enterprise.

The way forward

Canadian author and musician Leonard Cohen's best-known song, "Hallelujah", contains these self-referential lines: "It goes like this, the fourth, the fifth, the minor fall, the major lift, the baffled king composing Hallelujah" in which the words describe exactly what the melody is doing. The song exalts the daily lives of flawed human beings in the present with reference to the legendary past of David, king of Israel, striving to please God. The history of nephrology attained a similar self-referential moment in 2016, when Dr. Diamandopoulos published "On the History of the History of Nephrology" in *NDT* in 2016,³ where he attempted to articulate exactly how the field was linking the present to the past today, and how it had done so in previous years. Self-referentiality and a consciousness of the way we link present to past is bound to change, while addressing new questions about the future, and may bode well for the discipline. Hallelujah to the bright and expanding future of the history of nephrology.

Finally, if one is concerned about the promotion of the history of nephrology, either as an amateur or scholar in



Figures 1 a, b, c. Images from Solez's presentation at the Larissa IAHN Meeting. Available at: <https://www.youtube.com/watch?v=GPACpUXJo4Q>.

the field, one can play a positive role by openly sharing the passion for the history of nephrology with those around them. After all, passion in young people arises proportionately with the enthusiasm exuded by their mentors. Thus, all authors of this paper, in addition to the readers, have an important role to play as torchbearers in keeping alive the passion for nephrology's history, today, tomorrow and beyond into the future.

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ΠΕΡΙΛΗΨΗ

Η ιστορία της Νεφρολογίας είναι ζωντανή και παρούσα και βοηθά στην πρόβλεψη του μέλλοντος

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Αν μπορεί να υπάρξει ένας «έρωτας στα χρόνια της χολέρας», τότε μπορεί να υπάρξει και η Ιστορία της Ιατρικής των νεφρών στην εποχή του COVID-19. Στο άρθρο μας αφηγούμαστε την ιστορία της Νεφρολογίας, η οποία και ενώνει διερευνητικά νεαρά μυαλά με μια επιστημονική παράδοση δημιουργημένη από τις πλέον έμπειρες προσωπικότητες της επιστήμης. Ιδιαίτερα νέες τεχνολογίες όπως αυτή του διαδικτύου έχουν πια κάνει την ιστορία της νεφρολογίας πολύ πιο προσβάσιμη σε ένα ευρύ φάσμα κοινού, συμπεριλαμβανομένων των νεαρών φοιτητών και των ασκούμενων ιατρών. Το ενδιαφέρον που συνεχίζει να κυριαρχεί στο πεδίο εγγυάται ότι το μέλλον της Ιατρικής των νεφρών θα είναι λαμπρό και θα επεκταθεί προς όλες τις κατευθύνσεις. Μπορούμε να αντιμετωπίσουμε τόσο το παρελθόν όσο και το μέλλον με ίση ακρίβεια και αυστηρότητα υπό τη σκέπη της ιστορίας. Μπορεί κανείς να φανταστεί μια συμμετρική πορεία ανάμεσα στα 193 χρόνια που μεσολάβησαν από την έκδοση του βιβλίου του Richard Bright το 1827 και το σήμερα και τα 193 χρόνια που θα μεσολαβήσουν από το σήμερα μέχρι το 2213, την εποχή που κάποιοι αναμένουν ότι η ανθρωπινή συνείδηση θα μπορεί πια να μεταφτεύεται τακτικά σε ανόργανα υποστρώματα. Προς το παρόν, ωστόσο, πρέπει να «ανασκάψουμε» το παρελθόν ώστε να επιτύχουμε μια καλύτερη εικόνα για το πού πηγαίνουμε και για το πώς θα επιτύχουμε τα επιθυμητά αποτελέσματα, που είναι ιδιαίτερα σημαντικά στην εποχή μιας παγκόσμιας κατάστασης υγειονομικής έκτακτης ανάγκης, που όλοι πολεμούμε τον κοινό εχθρό, τον COVID-19.

Λέξεις ευρητηρίου: Ιατρική εκπαίδευση, Ιστορία της Νεφρολογίας, Richard Bright, Τεχνολογική μοναδικότητα, Το μέλλον

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