

Greetings from the editor

Josef S Smolen

Since the time I had the privilege to take over the editorship of the *ARD* from Tore Kvien, I have provided biannual 'Greetings from the editor'. By convention, greetings in the January issues focused on the preceding year's evolutions and future plans for *ARD*, coupled with best wishes for a happy new year; and in the June issues, on the occasion of the Annual EULAR Congresses, the Greetings comprised an update on the most recent and current content of the Journal and also wishes for a successful Congress. Alas, last year, for the first time in its history, the EULAR Congress had to take place virtually and this year again, we will not have the opportunity to meet at the conference site face to face. The COVID-19 pandemic prevents us from sitting in large lecture halls with many other participants, engaging in personal discussions with speakers and other colleagues, seeing each others' smiles and body language and getting together socially.

Exactly a year ago, I ended my greetings saying: 'Let us hope that an effective therapy and vaccine against COVID-19 will be developed in due course'.¹ And much to my surprise, by the time of my January 2021 greetings, the first vaccine had shown good efficacy and safety in clinical trials² and soon thereafter it was approved; other vaccines swiftly followed. While effective therapies that prevent COVID-19 are not yet in sight, the vaccines were developed in record time.

The COVID-19 pandemic is reminiscent of other pandemic and epidemic situations. Indeed, about 100 years ago, the influenza pandemic of 1918–1920 cost more lives than World War I. It took 15 years from the time of that pandemic to isolate the virus.³ Burnet, recipient of the Nobel prize for physiology and medicine in 1960 for his contribution to the elucidation of acquired immunological tolerance, and who is likely best known to rheumatologists for his clonal selection theory of antibody production,⁴ was the first to cultivate the influenza virus on developing hen eggs in 1935.⁵ With his continuing research,⁶ this achievement ultimately enabled developments that

culminated in the production and successful application of influenza vaccines almost a decade later.^{7,8}

Why is influenza mentioned here? First, because it provoked a similarly fatal pandemic 100 years ago as SARS-CoV-2 has today. Second, because it has been proposed to occasionally elicit autoantibodies like rheumatoid factor and anti-phospholipid antibodies,⁹ observations that also have been reported for patients with COVID-19 in *ARD* recently.^{10,11} Third, because we have learnt in previous studies that disease modifying antirheumatic drugs, including tumour necrosis factor (TNF) inhibitors, interfere with the efficacy of influenza vaccination only to a small extent,¹² while rituximab has significant effects in this respect.¹³ These and other pieces of information are contained in a timely update of EULAR recommendations regarding vaccinations last year¹⁴ but also most recently in EULAR points to consider for the current SARS-CoV-2 vaccination programmes published in this issue.¹⁵ And fourth and finally, because the example of a single personality, a pillar and hero across many areas of medicine, Sir Burnet reveals how closely related research into infectious disease and investigations of immunological mechanisms are.

When Burnet received the Behring Award of the University of Marburg/Lahn on 15 March 1954, he mentioned his esteem for Emil von Behring,¹⁶ a 1901 Nobel laureate (actually the first to be awarded this prize for medicine), who had detected the therapeutic value of 'anti-toxins', extracted from sera of immunised animals, against diphtheria and tetanus and founded a manufacturing plant for these sera, the 'Behringwerke'. However, Burnet particularly praised Paul Ehrlich because in his view Ehrlich, like nobody else into Burnet's days, had brought microbiology, immunology and chemotherapy (in the sense of antimicrobial therapy such as against syphilis) together.¹⁶ Indeed, Ehrlich, himself a Nobel laureate (1908), by having developed the 'side chain theory' of antibody production¹⁷ and having invented the term 'horror autotoxicus' (ie, fear of self-destruction) as a first historic discrimination of self and non-self and thus recognition of tolerance, is one of the founders of modern immunology. All these foundations within the field remain relevant in current therapeutic approaches: convalescent serum,

monoclonal antibodies against SARS-CoV-2 spike protein and vaccination with spike protein are exploratory or approved and effective therapeutic or preventive options. Moreover, medicines that are part of the rheumatologists' armamentarium appear to be efficacious against severe COVID-19.^{18,19}

This excursion to Burnet, Ehrlich and Behring should remind us that epidemics and pandemics have been around since times past—obviously already much before the 20th century, such as the plague—and were ultimately successfully conquered. It also allows the forming of a coordinated response, such as that which arose at the beginning of the 20th century with the foundation of the Behringwerke, to produce animal sera against various toxins and vaccines against typhoid and tetanus, and closes with the takeover of the Behringwerke by BioNTech²⁰ to produce their vaccine against SARS-CoV-2, the first COVID-19 vaccine to be licensed; one of several vaccines that serve, among many others, our patients.

In a treatise on rheumatic fever, yet another belatedly recognised consequence of an epidemic with particular rheumatological impact^{21,22} that has only become controllable with the widespread availability of antibiotics, Copeman stated over 75 years ago in *ARD* that 'clinical medicine is the study of man in his environment'.²³ To present, studies on people with rheumatic and musculoskeletal diseases to understand the value of novel therapies, develop insights into diagnostics and outcomes assessments, enlighten aetiology and pathogenetic pathways, has been and continues to be the focus of *ARD* since its foundation in 1939. Adherence to these principles is also visible in this issue.

Several points-to-consider or recommendations are presented in this June issue: one on the pathophysiology of COVID-19 (accompanied by an elegant editorial)^{24,25}; one on the important topic of adherence to treatment²⁶; and one on the standardisation of scoring in arthritis models, an area where standardisation had not been undertaken hitherto.²⁷ A review authored by one of the world's premier groups provides an important summary of current knowledge and prospects on functional genomics.²⁸

In the 'Heroes and Pillars of Rheumatology' section, eminent authors remind us of two major figures in rheumatology of the late 20th century into the most recent years, Charles L Christian and Joachim R Kalden, a US and a European hero, respectively, who have inspired the whole world with their research and personalities.^{29,30} These remarkable leaders were among the most important scientific and clinical pillars of modern rheumatology, mentoring

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numerous rheumatologists, including chairpersons of rheumatology departments who are active in our current day, and both having been Presidents of the respective major organisations across the Atlantic, namely, ACR and EULAR.

As always, this issue also presents many original research papers and letters, together with the correspondence section. In this issue, some focus is given again to COVID-19, COVID-19 which has become a major research focus for rheumatologists and which has interfered with all our lives over these past 15 months. Enjoy reading these and the other papers.

With the 2021 Congress, the EULAR Presidency of Professor Iain McInnes will end. With his dedication and his immense spirit to advance the impact of the organisation, he has steered EULAR splendidly through difficult and, sometimes surreal, times. The creation of a virtual research center³¹ during his term of office will help to further advance the field and likely become a source of inspiration and important manuscripts to be submitted to major scientific journals such as ARD. Thrown into the virtual reality of an EULAR Congress, he and his team have already made the 2020 Congress a very special, very successful and, in many ways, a memorable event, while the plans for this year's event will fully materialise as you read these Greetings. His support for ARD, both as associate editor and reviewer, was exemplary and is acknowledged thankfully. The Presidency moves to Professor Annamaria Iagnocco who is cordially welcomed and under whose leadership EULAR will further prosper and flourish! During her term of office, EULAR will hold its 75th anniversary next year and we all already now look forward to this celebration.

Let me close by wishing, as we all do, that the pandemic will soon be under full control. Let me also wish you an inspiring and successful EULAR 2021, and let us hope that we will meet in person and in joy again for EULAR 2022.

Kind regards
Josef Smolen

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