

## Article

# Reminiscence of a Teacher of Medical Genetics — E. M. Nicholls

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### Abstract

A brief account is given by E. M. Nicholls, M.D., of the formation and demise of the School of Human Genetics of the University of New South Wales.

**Keywords:** Medical genetics

(Received 21 September 2020; accepted 23 September 2020; First Published online 23 October 2020)

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This account, with the heading ‘Human Genetics at UNSW 1960–1992’, has apparently not been published elsewhere. It relates to the establishment and later demise of the School of Human Genetics in the Faculty of Medicine of the University of New South Wales. Its author, Dr E. M. Nicholls, was a prominent figure in the formation of the Human Genetics Society of Australasia and is of interest for that reason alone.

A major contribution to medical science of Nicholls was noted by Stark and Otto (2016).

An insight into an important player in the account is Walsh (1966).

What follows is the verbatim version composed by Nicholls.

The precise date of formation of the School of Human Genetics is uncertain. When I arrived in February 1964 (February 10, the day the *Melbourne* sank the *Voyager*), it was not clear to me whether I was in a School of Human Genetics or a Department of the School of Paediatrics.

### Why Human Genetics?

R. J. Walsh, Director of the Red Cross Blood Transfusion Service, had had some involvement in the establishment of the Faculty of Medicine at the University of New South Wales. He had numerous publications in the field of genetically determined red cell antigens, which was one of the main areas of importance in Human Genetics at the time. In the early 1960s, it was unusual to have a School or Department of Human Genetics, particularly as the university did not have general Genetics as a separate entity. I regard the School of Human Genetics as having a subtle inhibitory effect on the subsequent development of genetics as a wider discipline in the university until as recently as the early 1980s.

In 1900, with the realization of the importance of Mendelism, medical genetics became an area of great (even excessive) scientific enthusiasm. Many of the excesses in interpreting genetic effects have since been pared down or completely forgotten. In the late 1950s, there was a further rebirth of interest in medical genetics

with the discovery of chromosome disorders, particularly Down syndrome, some other autosomal trisomies and several X-chromosomal disorders. I believe that the Faculty of Medicine must have been impressed by this technical progress (the first time that a laboratory technology other than blood grouping had become available in any comprehensive way for the study of a genetic problem). It was in about 1960 that most clinicians realized that there was a new field of medical genetics opening up, and I suspect that that influenced the Faculty of Medicine to invest in what was a quite unusual enterprise for Australia. My greatest disappointment, and probably the greatest mistake for the survival of the School of Human Genetics in the University of New South Wales, was the day in 1964 when Professor Walsh told me that we would not have medical cytogenetics as an activity of the School, because there was ‘nothing left to discover’, or words to that effect. Ken Kenrick and Graeme Morgan had started some cytogenetic work at the Red Cross Blood Bank, but within a year or two it was transferred to the Prince of Wales Hospital, where within a few years it became a major technical area and has now spread to many centers in New South Wales and has contributed enormously worldwide to human gene mapping, diagnosis dependent on DNA technology and the theoretical understanding of our basic biology.

### The School of Human Genetics

When I arrived in 1964, there was no formulated plan for establishing a Department or School. Professor Walsh (as he was by then) accepted me as a lecturer but his national, international and Blood Banking interests continued as before. A room was found for me in the School of Pathology but every other School activity continued at the Blood Bank — I had no colleagues and no laboratory (and for a time no furniture) so that any effective time spent was at the Blood Bank, to which I retreated permanently within a few weeks. There was, basically, no space there either, but with some colleagues I was able to arrange enough activity to pursue my MD studies, which were completed in mid-1966. One great advantage was the minimal amount of teaching — several hours per week in one session annually, the medical student classes in Human Genetics being initially quite small. Dr Lai had joined the school

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**Cite this article:** Stark AE. (2020) Reminiscence of a Teacher of Medical Genetics — E. M. Nicholls. *Twin Research and Human Genetics* 23: 298–299, <https://doi.org/10.1017/thg.2020.77>

as a research fellow and had later been given a post as lecturer. Subsequently, Dr Stark had also joined the school as medical statistician to the faculty, based in the school. At the beginning of 1967, Professor Walsh had concluded that the arrangements at the Blood Bank were creating problems, and with the availability of adequate space on the 5th floor of the Wallace Wurth Building, all of the staff with affiliation to Human Genetics moved to the university campus. Subsequently, we moved again to the Link Wing adjacent to Biosciences (1974).

In 1973, Professor Walsh became Dean of the Faculty of Medicine and almost simultaneously a number of things happened. A five-year medical course was hastily introduced, creating a lot of outrage among some members of Faculty. Preclinical allocation of time was severely curtailed, and it became a matter of power politics which schools would retain what they regarded as adequate time for teaching. Human Genetics almost disappeared at a time when the subject was about to make its greatest 'leap forward', and despite the fact that it was the Dean's main academic discipline, the school was renamed Community Medicine and we entered on a period of almost total academic stasis which lasted for 3½ years. The Dean delegated virtually no authority to his school. A Professor of Community Medicine had been promised, but it took until the beginning of 1977 before one was appointed and took up duty. Professor Webster had no expertise in Medical Genetics, and most of the 1970s was quite unproductive academically in terms of the original discipline of Human Genetics. This, I believe, also applied to the teaching of other aspects of genetics in the university at the time to which I alluded previously.

An effect of the almost total loss of teaching of genetics to medical students was that the three senior lecturers in the school took up other genetics teaching. Dr Lai established a third-year subject, Biochemical Genetics of Man; Dr Stark established Human Population Genetics and Human Quantitative Genetics and I established Genetics of Behaviour, which rapidly developed into two parts (1 and 2). Dr Stark's subjects were at third-year Science level, and mine were second and third year, respectively.

At various times during this period, I was also involved in a number of other teaching activities — School of Optometry, School of Psychology, Institute of Psychiatry, Institute of Technology.

In the late 1970s, Professor Webster nominated me to the University Safety Committee to represent the Faculty of Medicine. After I had attended meetings for a number of years,

during which time Professor Svensson (Dean of Engineering) was developing ideas for a discipline of Occupational Safety, I was asked to join the founding committee for this activity. There followed two or three years of discussion that culminated in the first enrolment of nine students in 1983. I formulated most of the medical and paramedical aspects of the teaching in several subjects. Prior to this, I had begun to feel that the administrative processes in the School of Community Medicine were not conducive to the setting up of the new activities. In 1983, I left Community Medicine and joined Biomedical Engineering — Safety Science was not formally established until 1986. There was one quirk of the university bureaucracy at this time which did not become obvious until some years later — by joining a Department of the Faculty of Engineering, thereby greatly increasing my medical teaching, I was deprived of a substantial part of the medical loading which all other medical graduates in the Faculty of Medicine enjoyed. Had the university, through the School of Community Medicine, properly informed me that this would happen, it is exceedingly unlikely that I would ever have joined the Faculty of Engineering.

In the early 1980s, medical genetics entered on its third major growth period. If preparing pedigrees in the era 1900–1960 or working on cytogenetics between 1960 and 1980 showed an increasing tempo of technical input (for ever fewer patients per man hours of work), then the introduction of DNA technology in the 1980s has increased the technical input even more for even fewer patients. However, the brilliance of the DNA revolution clearly outweighs the cost, and techniques are improving daily so that the day is in sight for the decoding of the human genome and the labeling of all the genetic influences on our species. Genetics is no longer merely confined to 'breeding': it now has applications in every aspect of biological science. This is reflected in the interests of our students and the relics of the School of Human Genetics — Dr Lai, Dr Stark and myself.

## References

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