Opening lecture

The Dawn of Modern Paediatric Surgery and the Man Who Made It Possible

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When Sachiyo Suits suggested to me that I should talk to you. I was flabbergasted. What can I, a man of 83 years of age tell you that is new and that you don’t know? But then I thought about it and realized that I may tell you something which is of slight interest to me. Modern paediatric surgery is so very young that it happens that my professional life spans it nearly all. I knew the founders, I knew the men who followed them intimately. I was present at the very beginning of it all and saw our speciality developing with an unbelievable speed. Today, there exist paediatric surgeons in most countries of the world and most developed countries have a plethora of them. It is hard to imagine that 60 years ago they hardly exist at all. This explosion of paediatric surgery is due to a handful of men and women who in many countries started to work practically simultaneously and made paediatric surgery to the speciality it is now.

Paediatric surgical operations have been described since antiquity but they were usually one case only which surgeons described for its curiosity value. The first book on paediatric surgery appeared towards the end of the 17th century in Basle written by Fatio (Fig. 1). It was brilliant and ranged over the whole subject including the first successful separation of conjoint twins, but it was the exception and Fatio was really a gynecologist who dabbled in the surgery of childhood. Even in the 19th century, when specialised children’s hospitals were founded all over the world, the surgeons who worked there did it more or less reluctantly as a non-renuminative part of their adult surgical practice. Strange to relate that modern paediatric surgery was only started by two men between the two world wars. They were William Ladd in the USA and Denis Browne in England. I had the privilege to work with one and to know the other.

Let us first turn to William Ladd (Fig. 2). In 1917, there was a giant explosion in Halifax harbor as the result of which about 8,000 people were injured, many of them children. Many American medical men went to Halifax to help, amongst them the young doctor William Ladd. This experience determined him to devote the rest of his long surgical career to children only. In 1927 he was appointed surgeon-in-chief at Boston Children’s Hospital and modern paediatric surgery started from that date. It is amazing that 75% of all American paediatric surgeons of the next generation were trained by him. He was truly the father of modern American paediatric surgery and the influence he had on the next generation of surgeons cannot be overestimated. Almost his pupils one stands out, his first pupil Robert Gross (Fig. 3). Not only because he was the oldest, not only because they worked their whole life together, but also because he became the teacher of innumerable other paediatric surgeons. The two did not really like each other but that much. Both were general surgeons in the full sense of the word, but Gross took up cardiac surgery as his speciality. In 1938, he performed the first
ligation of a patent ductus arteriosus and from then on there was no holding him. Ladd somehow disapproved of cardiac surgery and their relationship became strained. Gross followed Ladd as chief of surgery in 1947. When I came to Boston in 1951 to work under him he was at height of his fame, a giant amongst surgeons, difficult to get on with but of unquestionable authority. The two men wrote their textbook on surgery of infancy and childhood together which for decades became the textbook for all paediatric surgeons. Over the years I became very friendly with Bob Gross and I remember well the formidable figure of William Ladd who came out of retirement to perform a hare-lip operation for me and we spent a most interesting evening together during which he told many anecdotes of his long life.

The next generation of American surgeons is much too numerous to mention them all. Literally, dozens and dozens of men were trained by these two men. I have selected four, partly because they were heads of
the biggest children's hospitals in the United States, partly because we were and are close friends. Willis Potts (Fig. 4) was such a giant. He run the Chicago Children's Hospital for years. Apart from being a brilliant paediatric surgeon he became a star cardiac surgeon performing his first successful operation on a blue baby in 1945. He was one of the many paediatric surgeons of the second generation who specialised in cardiac surgery. Orwar Swenson (Fig. 5) followed him in Chicago after being chief in the Floating Hospital in Boston. His name is, of course, forever connected with Hirschsprung's disease. He not only described the pathology but found also a curative operation for the disease.

Chick Koop (Fig. 6) who became surgeon-in-chief at the Philadelphia Children's Hospital, worked on many subjects. Perhaps his work on neuroblastomas is the most original. He in his turn trained a multitude of surgeons and ended up as Surgeon General of the United States. Bill Clatworthy (Fig. 7) who was
surgeon-in-chief at Children's Hospital in Columbus, Ohio, was like Koop a brilliant all-round surgeon. It is difficult amongst his many achievements to single out one, but I always found his work on portal hypertension the most spectacular. He too trained many paediatric surgeons. In fact, it can be said that these four together with Bob Gross were responsible for the training of the vast majority of the third generation of American surgeons. They were good friends and they stood together in the fight for recognition of paediatric surgery in America.

I want to add yet another man who, although he belongs to the third generation of paediatric surgeons, had a profound influence on the development of our speciality. This man was Steve Gans (Fig. 8). He was not only a brilliant surgeon who developed endoscopic surgery in childhood, but also one of the founders and the editor of the Journal of Pediatric Surgery, which to quote Robert Gross has perhaps done more to establish our speciality all over the world than anything else.

Let us now turn from America, undoubtedly the driving engine of our speciality, to the other side of the Atlantic. In England, paediatric surgery had been performed by general surgeons rather reluctantly and very much as a side show of little interest. It took an Australian Denis Browne (Fig. 9) to change all this. He had come over with the Australian Expeditionary Force in the first world war and after some preliminary work in Liverpool in orthopaedics he got on the staff of the Hospital for Sick Children, Great Ormond Street in London. He made it clear from the start that he would not dabble in paediatric surgery but would devote his life to it. This and a certain brusqueness made him few friends amongst his contemporaries. He was a man of ideas, an inventive genius and slowly young surgeons flocked to him and were trained.

Although he had worked in Great Ormond Street since the nineteen twenties, his great time came during and after the second world war. The majority of all British paediatric surgeons of the second generation were trained by him and his influence was paramount throughout the British Isles. Many of his operative procedures are now out of date, but at the time they were most original and giant steps forward. It is true that he made many enemies and that at first, therefore, progress of the speciality in Britain was slow, but in time this changed.

There were many surgeons of the second generation in Britain, practically all of them are dead. I cannot tell about them all, but a few must be mentioned. David Waterston (Fig. 10), technically one of the most brilliant surgeon I have met worked at Great Ormond Street and developed there paediatric cardiac surgery to a remarkable degree, but he was a wonderful general surgeon as was shown by his work on
esophageal replacement. He died much too early as did his colleague Harold Nixon (Fig. 11) who was in his time the greatest authority on malformation of the intestine. Bob Zachary (Fig. 12) of Sheffield was one of the very few who was not trained by Denis Browne but Robert Gross. He built up Sheffield into a first class centre. His life long interest belonged to spina bifida children and he wrote copiously on this subject and fought for his hundreds of patients tooth and nail to overcome the negative attitude towards these children.

Denis Browne, these three surgeons, and I were responsible for the foundation of the British Association of Paediatric Surgeons which became one of the milestones of paediatric surgery all over the world. My own colleague Isabella Forshall (Fig. 13) deserves special mentioning. She was completely selftaught and overcame her deficiencies but slowly, but she became a leader of her profession and was the first paediatric surgeon of note in Liverpool. The second generation of surgeons trained an incredible number of surgeons not
only from England but all over the world and the rapid spread of paediatric surgery was in large parts due to them.

When looking at the rest of the Britain, Scotland had paediatric surgeons for a long time, but they practiced only children's surgery reluctantly until an adult job became vacant. The first surgeons who stuck to paediatric surgery were Mason Browne in Edinburgh (Fig. 14), who died very early, and Wallace Dennison (Fig. 15) in Glasgow who wrote an excellent textbook of paediatric surgery for medical students.

In Ireland, things went a little slowly until Barry O'Donnel who was one of the last of Denis Browne's pupils established a brilliant centre in Dublin. Perhaps his best known contribution was the cure of ureteric reflux by cystoscopic injection of silicon.

In most of the countries of Continental Europe, very little had happened in paediatric surgery although children's hospitals were long established and surgeons were appointed to the staff, but after the second world war there were a few men in several countries who suddenly brought the subject forward. In France, which had a long tradition of child care, it was mainly the orthopaedic surgeon who look after children. Progress was painfully slow. It was not until a new generation came to the fore front that things began to move. Denis Pellerin (Fig. 16) who became the chief at the Paris Hopital des Enfants Malades was one of the examples. He was a brilliant organizer and paediatric surgery in France became under him rigidly organized not only in Paris but all over France. It took some time before the French provinces came into their own, but then men like Michel Carcassone (Fig. 17) in Marseille began to build up a big centre for paediatric surgery. Bernard Duhamel (Fig. 18) was a maverick amongst these early surgeons. He was brilliant. He is of course best known because of his operation for Hirschsprung's
Bernard Duhamel, but his work ranged over all aspects of paediatric surgery. He always remained an outsider and worked at a relatively unknown hospital in Paris. He died early and France has lost one of its outstanding men.

In Germany too many vested interests were against the development of our specialty. General surgeons and paediatricians combined to make it difficult. Modern paediatric surgery started, therefore, away from the University centres by a man who had no University appointment and no formal training in this specialty. It was Fritz Rehbein (Fig. 19) who worked in isolation in Bremen and whose genius covered the whole of paediatric surgery. His methods were often different from those generally practiced, but they worked. It is impossible here to relate his many achievements, but his treatment for long-gap esophageal atresia, imperforate anus, and Hirschprung's disease are perhaps the best known. Unfortunately, he had relatively few pupils. Of the next generation of paediatric surgeon Waldemar Hecker stands out in developing Munich as a centre of excellence.

In Italy, there were a number of surgeons who called themselves paediatric surgeons after the second world war, but who had neither the training nor the experience for it. Two surgeons need to be mentioned. Carlo Montagnani (Fig. 20) who is still alive and taught first in Florence, then in Rome. He was an outstanding surgeon. Perhaps he is best remembered for his contributions on bladder extrophy. Equally brilliant was Franco Soave (Fig. 21) who practiced in Genova at the Institute Gaslini. Surgery had been neglected at this large children's hospital, but this changed spectacularly with his appearance. His name is of course for always connected with his operation for Hirschsprung's disease. Unfortunately, he died much too early.

In Spain, where paediatric surgery was practically non-existent, there appeared Julio Monerero (Fig. 22)
who built up a magnificent service in Madrid until death cut him off in middle of his life. Of his many advances, his work on the treatment of portal hypertension is perhaps the most important.

Switzerland too had only one paediatric surgeon who became the teacher of many surgeons that followed him. Max Grob (Fig. 23) was largely selftaught. He practiced cardiac surgery as well as general paediatric surgery with great success. Of his many contributions, his work on malrotation of the intestine is perhaps best known. He published the first authoritative book on paediatric surgery written in the German language. Finland had its giant in Mathi Sulamaa (Fig. 24) who worked in Helsinki and became the father of Finnish paediatric surgery in every sense of the word. Sweden had by its neutrality during second world war like Switzerland been able to go on to develop its medical services. Paediatric surgery was started in Stockholm by Theodore Ehrenpreis (Fig. 25), a brilliant allrounder with special interest in Hirschsprung's disease. He
wrote copiously on it and came very near to its true pathology, but to his own great sorrow missed it. He only died recently being over 90 and with him a whole epoch of paediatric surgery has disappeared. In Sweden, paediatric surgery was not restricted to the capital. Practical simultaneously with Ehrenpreis, there was Patterson in Gothenburg (Fig. 26) who was especially interested in heart surgery, and a little later Gunnar Grotte in Upsala whose special interest was rectal malformations. In neighboring Norway, paediatric surgery was developed by that delightful character Ola Knutrud in Oslo. Holland played a leading role in developing our speciality. Perhaps it was because there existed so many outstanding children’s hospitals in that country. Pride of place belongs to Davy Vervat (Fig. 27) who founded a splendid centre in Rotterdam. He was convinced very early that paediatric surgery could only develop on an international scale as there were too few surgeons in any given country. He traveled widely to visit the various centres in Europe and was
indirectly responsible for the foundation of The British Association of Paediatric Surgeons, who right from the beginning understood itself not as a national, but an international body.

Paediatric Surgery developed relatively slowly in the other European countries. Perhaps special mentioning should be made Russia. Under the communist system it was extremely difficult to develop anything and every conceivable difficulty was put in the way of surgeons who wanted to specialise in this subject.

That it progressed at all is largely the responsibility of Stanislaw Doletzky (Fig. 28) in Moskau who developed our speciality in the face of unsurmountable difficulties.

There is no doubt that the development of paediatric surgery in Europe was greatly helped by the formation of the already mentioned British Association of Paediatric Surgeons in 1953. It gathered together all the surgeons in the various countries with an interest in children and began to exert some political pressure in all the countries in order to establish our speciality. From its very modest beginnings, it developed into an organisation with some power. It also exerted some influence world-wide, first of all by influencing what was then the British dominions. In Canada, there was also a big influence by the United States. Paediatric surgical departments sprang up in most of the University centres. Here, we must mention Harry Beardmore (Fig. 29) of Montreal because he managed the unthinkable. As one time President of the APSA, he managed to get paediatric surgery recognized in the USA against overwhelming opposition and thereby brought us all indirectly a giant step forward.

In South Africa, it was Jannie Louw (Fig. 30), later Professor of surgery at Cape Town who founded our speciality. I was Register together with him under Denis Browne, and remained forever influenced by him. Of his many students, perhaps the investigation into the etiology of intestinal atresia, which he undertook with
his one time assistant Chrischan Barnard who became later famous as the first heart transplanter, must be mentioned.

It is strange that in the homeland of Denis Browne his influence was not great. In Australia with so many outstanding University centres, it was inevitable that paediatric surgery should develop and prosper. The father figure here was Russel Howard (Fig. 31) who not only developed the first centre in Melbourne, but had also a marked influence upon the whole country. There are so many famous men who followed him that they cannot be enumerated. I will mention only three, all long retired.

Durham Smith (Fig. 32) has by his ceaseless work in the Australian College of Surgery, whose President he was with such distinction, made paediatric surgery respectable as a speciality in Australia. Douglas Stephens (Fig. 33) whose researches into the anatomy and physiology of rectum, anus, and bladder had his name made a household word amongst all people interested into the malformation of these organs. Finally, Nate Myers (Fig. 34) who kept up the great traditions in Melbourne. His work on atresia of the esophagus will be remembered for years to come.

And so we have gone round the globe and we must now turn to Japan. Japan has played a unique role in the development of our speciality and many outstanding departments have grown up all over the country. This is only a comparative recent development. It was not always so, as I can well remember. Outside the country, Japanese medicine has somehow the reputation of being rather conservative. This cannot be said of paediatric surgery. It has developed with extraordinary speed. There have been many difficulties and obstructions, but they have been speedily overcome. Numerous centres have sprung up all over the country and an
enormous amount of excellent research and clinical work has been done. It is impossible here to mention all the names of the outstanding men who have been responsible for this remarkable development. I shall talk of two of them, not only because they are long standing personal friends, but because I believe that they have taken a major part in developing Japanese paediatric surgery. Keijiro Suruga (Fig. 35) who with his youthful spirit and elan had brushed aside all opposition and became one of the top surgeons of the world and Morio Kasai (Fig. 36), whose work on biliary atresia has been one of the greatest advances in the last century.

Talking about the founders of our speciality, it appears to me that they were a truly outstanding number of individuals. They must have been, otherwise our speciality would not have developed with such rapidity from virtually nothing barely two generations ago to what it is today. True, it may be said that when we started it, everything in paediatric surgery was as yet undiscovered and unknown and it was relatively easy to make far reaching advances, but this alone cannot explain the astonishing progress. The two founders of our speciality were undoubtedly geniuses. They found an unknown subject and spent their life making advances in it. They had as yet no time and perhaps no inclination to fight for paediatric surgery as a speciality. It was the second generation of paediatric surgeons distributed all over the world, numbering only a few, perhaps not more than 50 who became such close friends and succeeded to promote our speciality as a speciality who did the job. I may be forgiven if I look upon these men as an extraordinary group of individuals. It was their close personal link which brought success because paediatric surgery alone was too small to succeed in any country, even in the United States. It could not succeed against the established specialities without outside help. This close link, this awareness of fighting for a common goal has by necessity now gone. There are now literally thousands of paediatric surgeons practicing. They cannot know each other well and establish friendship, but I think more can be done. There is little doubt in my mind that we are again in danger. The organ specialists are invading more and more of our territory. We must hold together and promote these specialities within our speciality. This can only be done in a few very large centres. The smaller centres must divide the work between themselves. There must be much more cooperation. If we have learned anything from our founders then it should be this that united we stand, disunited we fall. In admiring our forbearers we should heed their advice.
Peter Paul Rickham 教授は 1917 年 6 月 21 日生まれで、スイスの高校を卒業後、英国 St. Bartholomew' Medical School および Queen's College で医学教育を受け、軍医としてノルマンディやインド、東南アジアに駐留。戦後、Hospital for Sick Children、London、Alder Hey Children's Hospital Liverpool で Sir Denis Browne や Miss Isabella Forshall のもとで小児外科の研修をうけ、Rockefeller 財団の Fellow として Boston Children's Hospital および Philadelphia Children's Hospital に留学。1953-1971 年 Alder Hey Children's Hospital および Royal Liverpool Children's Hospital Liverpool で小児外科のチーフとして勤務後、1971-1983 年 University of Zurich 小児外科教授。


世界各国からの若き小児外科医の教育に熱心で、弟子の多くは現在小児外科医として世界中で活躍している。また退官された後には BAPS に Rickham 賞を設けて若き小児外科医の育成に力を注いでおられる。