APPENDIX 1

Keynote speech at the TRIPS Symposium, 26 February 2015

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I would like to thank you very much for inviting me to this Symposium. It is really great to be back in Geneva. I have, indeed, very fond memories of my long stay here and coming back gives me the great pleasure to meet dear, old friends.

It is a bit intimidating to appear as a keynote speaker. According to the dictionary, one is supposed to "set the underlying tone, summarize the core message, and arouse unity and enthusiasm" among you – well, we will see about that. What I will do is to share with you some recollections about what happened here some 25 years ago – because it was 25 years ago that we actually negotiated the TRIPS Agreement – and some reflections on where we are today, and that will be from my vantage point as Chair of the Swedish Research Council.

I think I was drafted as Chair of the Negotiating Group by default. I was asked whether I would be ready to chair one of the many negotiating groups and I thought that was part of the job description of a Permanent Representative in Geneva, so I said "Yes". And, when asked about my particular preferences, I gave the same answer as Marlon Brando did in a classic movie, *The Wild One*, when a nice young woman asked him what he was rebelling against: "What have you got?" Not much, it turned out. Well, it was not much at the beginning, but it turned out to be quite a lot at the end of the [Uruguay] Round.

It had to be a slow start and a steep learning curve. It was a new subject, very few experts on intellectual property (IP), if any, were posted in Geneva, and many delegations could not rely on high-level expertise in their capitals. Negotiations revealed, quite brutally, the extent to which GATT, as it was then, was run by the members, called contracting parties. That all draft proposals for the Agreement came from participating countries was as it had to be, but there was also a tremendous reluctance to allow the Secretariat, and me as Chair, to produce

factual information, and to ask WIPO to provide fact sheets was completely out of the question. The most important task in the beginning was to establish a basis for our negotiations. Several contracting parties submitted more or less complete text for a TRIPS agreement and these documents did not have even the ordering of subjects in common. Real negotiations were all but impossible. The obvious solution was, of course, to ask the Secretariat to put together a composite text as a basis. It was very difficult to convince everybody, and, as you know, in those days all decisions had to be unanimous. It took a long time and it was agreed only when I promised that nothing would be discarded. Literally everything that had been put on the table would be part of that composite text.

This composite text, called the Chair's Draft, appeared in June 1990, and the most important effect of that was that it put the negotiations on a solid track. It was, of course, a rather thick document with a lot of redundancy, but all negotiators in the room now referred to the same paragraph on the same page in the same document. Another unforeseen consequence was that we made rapid progress. Quite often, it was easy to see that the alternative texts said almost the same thing. In other words, we had an abundant crop of low-hanging fruits. We did not resolve the key issues, but we began to see what an agreement could and would look like. Why did we succeed? Certainly, David Hartridge and Adrian Otten and the other Secretariat staff did an excellent job, but we were, of course, part of the overall dynamics of the Round. The simple fact is that, without a comprehensive TRIPS Agreement, there would not have been a Uruguay Round as we know it today.

It is no secret that the United States was the main proponent in favour of putting TRIPS on the agenda, supported by countries such as Japan, the Nordic countries, Switzerland, Canada, Australia, New Zealand, Singapore, Malaysia, Uruguay, and Colombia, all keen to start a round for several other reasons. The European Communities (EC) was less enthusiastic and I think that Brussels could have lived without [a TRIPS agreement] when the Round started, but not when it ended. Several EC member states needed TRIPS to compensate for what were regarded as important concessions in other areas. Many other countries were less enthusiastic about TRIPS but realized that they needed to swallow that pill in order to get the rest of the package. The Nordic countries are free-traders, even if some of my friends were and are very keen on agriculture protection. I do not think any of our governments thought twice about the opportunity to launch a new round. However, as an afterthought, the Norwegian Government initiated an investigation of its balance sheet – What is actually in it for us? Where are the net gains for Norway? I was invited to Oslo for a discussion with members of the

Norwegian Government. It turned out that, among the gains that could be identified, design protection took pride of place.

After five or six years of pretty hard work, I allowed myself to feel some satisfaction with what we had accomplished, and in that "we" I include the Secretariat and all members of what was the biggest negotiating group of them all. But my enthusiasm was somewhat moderated by an experience I had in Hamburg. I was invited as a keynote speaker, together with the head of the London Port Authority. I spoke about the possible outcome of the negotiations (the text was more or less finished by then), and my colleague from the London Port Authority talked about activities to fight trade in counterfeit goods, and he showed a list of political priorities based on a survey of opinion in England. Among the 40 topics people had been asked to place in order of precedence, action against trade in counterfeit goods ended up next to last, beating a pay rise for MPs by a slim margin.

Ending this trip down memory lane, let me just say what I have already placed on record, that the Secretariat that I worked with was possibly the most talented and devoted group that I have ever worked with. I enjoyed the whole experience thoroughly, even if it may be too much to say that I enjoyed every minute of it. In particular, I remember one occasion when I had to leave the meeting with the informal group to attend to some other duty in Geneva. As Permanent Representative, I had a number of other obligations. I had agreed with David or Adrian that they should call my place and inform my family if, and when, the informal meeting would continue the day after. My then-11-year-old daughter took the call and placed a note on my desk saying "the infernal meeting will continue". I am certain that David or Adrian did not say that, but it was a rare exception to what was, on the whole, a stimulating experience, perhaps for all of us. I think I remember that Jayashree Watal once told me it was indeed hard work, but also a lot of fun. Since I see Thomas Cottier here, I cannot help mentioning something I noted down very late one night. We were all very tired, and Thomas maybe a little bit more than the rest of us. When he was reminded by someone sitting next to him that he had the floor, he woke up and said "Oh, it's me speaking, then I'd better say something" - but I do not remember whether he said much more than that.

Before turning my attention to the future, let us remind ourselves about how particular the situation was when we negotiated the TRIPS Agreement in 1991 and 1992. Some few years before that, Tim Berners-Lee had presented his idea for the World Wide Web at CERN [the European Organization for Nuclear Research], some 10 kilometres from here. All the components were at hand, but

he was the genius who put it together and, towards the end of 1989, he implemented the first successful communication between a hypertext transfer protocol client and a server - the beginning of it all. Was anyone aware of the revolutionary implications? I was also Sweden's representative to CERN and, for personal reasons, I kept in touch with the Swedish researchers coming to CERN to conduct experiments, and also with a few Swedes who were employed by CERN. I remember very well that the aim of one of the most important projects conducted at CERN was, and I quote, "to recreate the situation that prevailed one millisecond after the Big Bang" - the idea was to create the situation existing before all the basic laws of physics were established. This I remember very vividly, but I cannot remember that I ever heard them talk about the web or the Internet. Another development, also with huge implications for IP, was that patent law in the United States had recently been extended to cover software. The US Supreme Court had ruled in 1972 that abstract software algorithms could not be protected, but, 10 years later, a special Court of Appeal was created to hear all appeals in patent cases. I do not know to what extent we were aware of these developments and their implications for IP protection.

The basic proposition is still valid – in order to encourage private investors to spend money to develop new products and processes, the state is willing to protect them from competition for a certain period of time. The key challenge is still to strike a balance. How much protection is too much protection? Another key issue is what we shall require in order for something to be an innovation – how big must a step be in order to be an innovative step?

The TRIPS Agreement was a massive increase in IP protection globally, and it was primarily driven by corporate interest. The business community will continue to push but there will be, and should be, countervailing forces. There are good reasons to believe that too generous protection will stifle research, unduly restrict competition and increase transaction costs. There is an emerging consensus in the international research community that research financed with public money should be made available without costs to all other scientists – to the general public, in fact. The objective is that research results should be made available immediately, which is called Open Access Gold. Today, many institutions accept a delay of six to 12 months. This approach has been adopted by many of the major research councils in Europe and North America – the National Institutes of Health (NIH), British research councils, Max-Planck-Gesellschaft, European Union, my own organization and Wellcome Trust – we are among many others in the driver's seat. It has the support of a large part of the research community. The reason for open access is simple – it will promote the advancement of science. All scientific

endeavour builds upon what others have done in the past: "I see further because I stand on the shoulders of giants" is a saying that has been attributed to Bernard of Chartres as well as to Isaac Newton and a couple of others. Scientific journals are today so expensive that they are difficult to obtain, even for researchers at European universities; thus, open access will not only speed up the transmission of new knowledge but make it available to a much larger community. The issue is far from uncontested in the academic community. A number of decisions regarding allocation of funding are at present based on citations in peer-reviewed highimpact journals that do not allow articles to be made available on the Internet.

Many scientists see a risk if this system is replaced too quickly. An even thornier issue is the demand that, also, databases should be made available to the whole research community. It is easy to see the advantage, but one has to ask oneself about what happens to the incentives to invest time and effort to put together a new database. Even if there is no open conflict with the protection of copyright, I think it is important to note the general philosophy behind this approach – what is paid with public money should stay in the public domain. I might add that publishers of prestigious scientific journals seem to be far more lucrative than "Big Pharma".

By the way - is the pharmaceutical industry profitable? Yes and no - many pharmaceutical companies are highly profitable and what is sometimes called Big Pharma is doing well. At the same time, according to the CEO of Genentech, Arthur Levinson, biotech is - and I quote him - "one of the biggest money-losing industries in the history of mankind, having lost since 1976 and until 2008 a staggering amount of US\$ 3,100 billion". We could discuss at length the cost of new drugs - I will mention a few pertinent points only. It is, of course, not a new issue - we have had the discussion about the cost of treating AIDS victims in Africa and what could have been the consequences of the anthrax scare in the United States. Today, we already have drugs on the market that cost more than US\$ 100,000 per course of treatment. Even in not-so-poor countries, some drugs are not prescribed because of the cost - the reason given is often that the effect is not good enough, or even dubious. But it is more than probable that we will soon have a number of drugs that are more effective, and a lot more expensive. The pharmaceuticals industry is already in the era of biologics and produces drugs that consist of giant molecules, hundreds of times the size of a conventional drug molecule. True or not, I cannot tell, but representatives of the industry claim that those new drugs have one great advantage: they do only what we want them to do and nothing else - there are no or few side-effects. Some biologic drugs will use viruses to deliver gene therapy, the replacement of a faulty gene. We are

coming close to designer drugs. The total cost effect is difficult to predict, and I will refrain from guessing.

The most important point I wish to make concerns patents on human genes. If this were to happen, in a way that actually restricts research and the possibility to make new discoveries, it would be very serious indeed. I think the best way to illustrate my point is to relate a story that many of you may be familiar with. It concerns the two human genes, BRCA1 and BRCA2, which significantly increase women's risk of developing breast and ovarian cancer. It started in 1990 when a geneticist at Berkeley announced that her laboratory had located BRCA1 on chromosome no.17. After that, it was just simply a matter of time - who would be the first to isolate the gene? Supported by venture capital, funds and collaborators from the NIH, the race was won by a respected scientist and entrepreneur at the University of Utah. His team was also able to locate and isolate BRCA2. They formed a company and applied for patents in 1994 and 1995. The US Patent and Trademark Office awarded a total of seven patents on the two genes, various fragments of them and the diagnostic tests to find them. Some 10 years later, some organizations filed a lawsuit in an effort to overturn the decision of the patent office. The plaintiffs argued that it was wrong to award a patent on a product made by nature and claimed that the patents granted prevented others from using the genes in cancer research, diagnostics and treatment. I will not review all the arguments made in different courtrooms by several judges. However, I must note that I found it alarming that a judge considered that patents should be granted in order to satisfy the "settled expectations" of the pharmaceuticals industry. It ended up in the Supreme Court which, in a unanimous decision, struck down the patent on the two genes held by the Utah-based biotech company. In its decision, the Supreme Court stressed the need for an inventive step and argued that patent law should not inhibit further discovery or impede innovation more than it would tend to promote it.

Diffuse and vague-sounding patents are a main reason for the emergence of so-called "patent trolls", which are companies that exist only to buy and litigate patents. They thrive particularly in software territory. In 2011, some 5,000 firms in the United States paid US\$ 30 billion to the trolls and their lawyers. It is a major issue for some start-ups that cannot afford to defend themselves. One infamous case is a patent for "an information-manufacturing machine" at "a point of sale location". To me, that sounds like anything happening anywhere, and that was also the interpretation of the troll that bought the patent to sue more than 100 companies.

Finally, let me very briefly mention William Baumol's theory of competition – since it is based on the existence of patent consortia. It is presented in his book The Free Market Innovation Machine, one of the few - maybe the only - academic texts on economic theory that can be read and recognized by a CEO of a major company. If you think about the textbook treatment of what is called perfect competition, you realize that it is characterized by an absence of competition and of profits. None of the companies producing a homogenous product in a perfect market can by definition earn more than what is needed to survive. Baumol's point of departure is that, for competition to be productive, it must be between companies that have the resources to invest in new processes and products, in research and product development. His ideal is the oligopolistic market - a few, big, high-tech companies in relentless pursuit of new ideas, products and costsaving processes. But this is a dangerous game for the companies. If someone made a truly game-changing innovation and patented it, survival itself would be at stake for all the others. In order to eliminate this risk, and, I suppose, reduce the cost of litigation, companies pool their patented knowledge and these consortia, according to Baumol, tend to be stable because it is very risky to strike out on your own. There is not an abundance of empirical evidence in the book but it is an intriguing theory.

Revisiting the text we agreed upon, reflecting on what has happened since and thinking about the future – which, as an American Congressman observed, has no lobbyists – I must admit that I have some concerns. First and foremost, I am convinced that it would be very serious if protection of IP were to stifle and prevent research. In a sense it would be self-defeating. There would be less genuine progress to protect. My other concern is more general. I think both politicians and the business community should consider the obvious need to demand a clear, visible, inventive step in order to award 20 years' protection from competition.

Thank you very much for your attention. I look forward to the Symposium. I will pick up where I left off in 1994 and expect to learn a lot.