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Dr. Yusuf Hamied, CEO, Cipla Ltd.

Interviewed by Tarun Khanna, Professor, Harvard Business School

April 29, 2013 in Bombay, India

Video interview conducted in English

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Interview with Dr. Yusuf K. Hamied

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***TK:** What I'd like to do is ask you perhaps to reflect on the sweep of your career, and perhaps pick a few moments that you think of as transformative, either on your own thinking or on the evolution of Cipla, the business that you most identify with... or any other aspect of the ambient environment over the years. We might have to go chronologically but I'll leave it up to you.*

YH: You have asked me a very difficult question. It's been almost fifty to seventy years. Well, my childhood began here in Bombay; I was at Cathedral School. In those days, I went through the O Levels. At that time, a fortuitous event took place. My father Dr. K. A. Hamied happened to be the sheriff of Bombay. And one of the functions as the sheriff of Bombay was that they had to entertain the foreign dignitaries who visited Bombay.

In 1953, just as my O Level results were in, a professor of chemistry at Cambridge University, Professor Alexander Todd had visited Bombay. I was then sixteen years old, when my father first took me along to meet

Professor Todd with my O Level result card, my first interaction with Professor Todd later evolved into a friendly relationship, which I would elaborate it later.

When I showed him my result card, I had asked him a very interesting question. I said, “Professor Todd, what are the minimum qualifications required for someone to join the Cambridge University?” Todd replied, “If we like the boy, and if we feel the boy is adequate, we take him. No minimum qualifications.”

Then my father said to Professor Todd, “I’d like my son to study there.” So Professor Todd looked at my card and me, chatted with me for two minutes, and said, “OK, he can join Cambridge in 1954.” So I never sat for the A Levels; I went straight from O Levels to Cambridge University in 1954. As an eighteen-year-old wide-eyed youngster, it was a very traumatic experience for the first year or two in Cambridge. As years passed by, in 1957 when I got my degree, Todd by that time was Sir Alexander Todd, then later on he became Lord Todd, then he was honoured with the Nobel Prize in Chemistry in 1957. During that time, Professor Todd asked, “Would you like to do research under me?” So I stayed on at Cambridge for another three years and did my Ph.D. under Lord Todd.

TK: *I always imagined that you moved into this stream because of your father.*

YH: No, not at all. My father never restricted me or said that I should do Chemistry, or Physics, or I should do Mathematics. However, my interest has always been just science. My preference was particularly Chemistry; it was just one of those things.

So that was until 1960. At the age of twenty-four I came back to India, to Bombay, and started working for Cipla. For almost a year, the Indian Government didn't give me an appointment. If you are related to a director of a public-limited company, your appointment in the company had to be approved by the Company Law Board. They had kept me hanging for a year. And then, I was appointed as a research and development officer in the year 1961, at a salary of 1500 rupees, fixed for three years, and that is how I started my career in the pharmaceutical industry. It was a very difficult period but I sailed it through.

In 1960s, the pharmaceutical environment in India was quite interesting. Two things were prominent during that time: the first was the domination of the multinational companies in India during the '60s. They controlled 70-80% of the domestic market in India. Secondly, India was following the British patent system of 1911.

I missed something to tell you very important and have to get back to the history. In 1939, when I was only three years old, Mahatma Gandhi visited Cipla. You must know how it all happened.

In the year 1921, Mahatma Gandhi gave a call to Indian students to boycott British institutions. At that time in 1921, my father was studying in Allahabad University. So he left Allahabad, and came to Shantiniketan to

be with Gandhi. At the same time, another young man left Aligarh University and came to Shantiniketan, and these two young men became extremely good friends.

So, in the year 1922, Gandhi said these two young boys, “I would like you to go to Delhi and start a national university.” So they packed off in 1921 to Delhi, and they started Jamia Millia in New Delhi. It was already there earlier in Aligarh, where my father’s uncle was the Vice Chancellor. The origin of Jamia Millia in New Delhi was through these two young boys, one was my father, and the second person was Zakir Hussain, who later on became the President of India, and who is the grandfather of Salman Khurshid.

So this is the story on how my father became friendlier with Mahatma Gandhi. So much so that in 1939, Gandhi telephoned my father and said, “I want to come and see you.” So he came to Cipla in 1939, just at the outbreak of the war, and told my father that the British have come to see Gandhi. (This was told by my father to me much later on).

Gandhi said to him, that if India assists the British in the war effort, they will consider giving India independence. So my father asked, “Why have you come to see me?” He replied, “Because medicines have stopped coming to India from Europe.” At that time India was importing everything, or virtually everything. “I want you to manufacture medicines for the Indo-British war efforts,” he said. And this is what my father did, and that’s how Cipla actually came about.

It was with the visit of Gandhi to Cipla at that time made all of us to learn a very important lesson in India: Self-reliance and Self-sufficiency.

TK: Cipla was created in response to the visit?

YH: No. Cipla already existed since 1935, but we were struggling. I think the boost came during the war years of '39 onwards, when we started supplying medicines for the war effort. Even I remember the medicines: there was Corolla; there was Cardiamid for trauma; there was Emetine injections for dysentery and diarrhea; calcium pills. Then the biggest product that we sold for the fight against the Japanese on the eastern side was a product called Qinarsol, which is a tablet for malaria.

So in 1960 when I came back, I still believed in self-reliance and self-sufficiency, and to this day I talk about how India needs to self-reliant and self-sufficient.

TK: Can we stay with your father for a second? There must have been some “Gandhian” ethos, if you will, where Gandhi is a better adjective, or a better qualifier, that your father felt that the company in its early days acquired because he was close to Mahatma Gandhi.

YH: Yes, he was very close to Mahatma Gandhi. And my father vehemently opposed partition, as did Mahatma Gandhi. I think it was a very sad point in our family's history and for my father in particular, when

partition happened in 1947—very sad—But he said, “I’ve been a staunch Indian. I am an Indian. For me India comes first—and I am staying put.”

TK: So for the purposes of the readers and viewers, your father was a Muslim.

YH: Yes, my father was a Muslim, but my mother was Jewish. So that was an interesting match. Whenever I have to speak at meetings, I mentioned it. The other day when I was talking in London had faced this question of religion...

My father has written a book on religion, a series of books. He has written on Hindi: “What is Hindi?” He has written on the pitfalls of democracy, on religion, etc.

Those were the early days. In fact, as a child, I met all the leading Indian politicians. I used to share a room at home with Zakir Hussain all the time. In those days, I remember Sarojini Naidu very well, and so as Kidwai and Maulana Azad. I met them all as a youngster, in the freedom fight, prior to 1947. So those were very interesting times.

TK: So the primary influence you would say has to do with your inclination to believe in the importance of self-sufficiency?

YH: I used to see a lot of suffering in India, even in the early days. When I came back in the sixties, after my studies, what really hit me that in those

days, Bombay had a population of only 2 million and yet it seemed over crowded. So the first thing, I did in the mid-'60s was to educate myself in an area of science, which is the steroid industry, hormones, and even now we do a lot of work in the field of steroids.

At that time, my ambition was to focus on the area of drugs which can help family planning in Indian population; that was the first thing. And the other, I observed that the power of the multinationals in India was predominant. Therefore in 1961, we started the Indian Drug Manufacturers Association in India (IDMA). The objective of the association was to target intellectual property.

TK: *Who are “we”?*

YH: Myself, and there was team of Dr. A. Patani, Mr. Mody, and a few leading Indian companies. Though we were a team of few people, we kept our fight on.

TK: *Can I ask whether the fear of the multinationals, or the angst about their dominance was held by the public at large, or only by people in the industry?*

YH: I think we were the only people from the pharmaceutical industry who understood what it meant at that time. But we were not against science. Being a scientist myself at that time, I was not against science. Our fight

even in those days was against monopoly. That if you have a monopoly, even today, you can charge exactly what you like. The fight was essentially only against monopolies.

I will give you some very interesting examples of this. Like in 1956, Senator Kefauver in America, and some of the drug prices in India were among the highest in the world. I will come back to this little later, because that is the issue what we are facing today.

During that time, there were three ambitions in my life: one was intellectual property, monopoly; two was family planning in India; and the third was a result of the first year when I was unemployed and I couldn't get a job because the government didn't give me a job. So I studied the pharma industry inside and out, and I came to the conclusion that the foundation and backbone of the drug industry is not the tablets or capsules or injections that a patient buys; it is who makes the active ingredients. That is the crux. And that is when I started that activity within Cipla. I encouraged industry people, saying, "Fellows, the backbone is this; go ahead and manufacture."

At that time the Indian Government said that if you have imported an end product, the import duty was 100%. If you imported raw materials to make the end product, the duty was 146%. It was totally, what should I say, so much so that the less said the better.

I can go on and on about what happened in the '60s; it was a terrible situation. There was no foreign exchange in those days so we had to be self-sufficient. To go abroad we needed a P Form and income tax was very

high. Till 1995, no Indian working in a public sector company could get a salary of more than 15,000 rupees. I do not know whether you are aware of it or not. It was a very tough period. There was a two percent wealth tax, right up to 1995. But that apart, personally I am a national-minded person and I love India.

So at that time, these were the three things: making intellectual property, family planning in India, and making active raw materials.

TK: You talked about important political personalities. Another personality when we talk about family planning was Indira Gandhi. I know the relationship between Cipla, pharmaceuticals in India, and Indira Gandhi. Can you speak about that?

YH: There is a little thing. My father knew her extremely well. In fact he saved her life in Budapest in 1928, when she got typhoid there. So that's another story.

But in terms of family planning in India, I hit a brick wall. We started producing the raw materials that go into the pill, but we could not sell the pill. We did not have the wherewithal to sell it. So we went to the Indian Government, and said look, this was in 1974, we can make the pill at virtually two rupees a month, twenty-one tablets or twenty-eight tablets at that time for contraceptives. At that time the price in America was \$6-8.

And I said look, you have the distribution network. Why don't we do it like a joint project? It got turned down. Turned down for what reason?

One of the bureaucrats said, told me to my face, “Oh, under some PL 480 American grant, we get 30 or 40 kilograms of Ethisterone raw material every year, free. And we make tablets out of that and distribute. Then why should we need you?”

So to cut a long story short, what happened in the year 1967, a very interesting thing took place. For the first time, the Indian Government stood up to a multinational, it was against Beecham, and brought into India Ampicillin, which Cipla was the first company to introduce it in India. That’s another long story, at some stage I can tell you.

Then what happened in the year 1971-72, while we were still fighting with multinationals to have the patent laws changed, et cetera, we marketed a product called Propranolol, which was a drug against heart disease, and it was the first beta blocker in India.

I did not approach Indira Gandhi at that time. But the story goes as follows. Propranolol was invented by ICI [Imperial Chemical Industries] in England, in 1963. It was marketed by ICI, essentially worldwide, in the year 1965. In 1972, Cipla introduced the generic version of Propranolol in India and therefore ICI filed a case against Cipla for patent infringement.

I sent an emissary to Indira Gandhi, and the story goes as follows: Madam, here is the drug. Should millions of Indians be denied the use of a life-saving drug just because the inventor doesn’t like the color of our skin? And she was taken aback. The very next day, the health minister by the way, in September 1972, was Sushila Nayar. Sushila Nayar had come with

Gandhi and Sardar Patel to Cipla in 1939. Hence, she was also a very national-minded health minister under Indira's government.

Overnight Indira passed the patent bill in September 1972, which said the following: you cannot patent any end product; any compound you cannot patent; you can only patent a process to make that product for a period of seven years. Thus the patent bill changed the whole face of the Indian industry.

TK: So would you say that it was directly in response to this beta blocker?

YH: I don't know whether it was the beta blocker. The whole thing had been building up. The bill was in the parliament in 1970. It was called as The Indian Patent Bill 1970, but it was only passed in September 1972, and just because the multinationals were opposing it like hell.

But there was a very interesting side to that. When we were fighting the multinationals, and I had many personal debates at the time with them, that look we respect patents—even today we have nothing against patents—we respect patents—and I sincerely believe that an inventor has to be suitably rewarded, no questions about that.

And I always cite one thing which is very interesting for you, that in 1969, Canada signed a bill S91, which said the following: Canada can copy any patented drug that they want to, import or copy, and pay the inventor, patent holder, a 4% royalty.

TK: And where did the 4% come from?

YH: From the net sales: 4% of the net sales. It was fixed by the Canadians. And that was the law in Canada. From 1969 to 1992, nobody objected to it, neither the Americans, nor the Europeans.

Even today, my main point, whenever and wherever I talk, is “If it was good enough for the Canadians, why is it not good enough for the third world and the emerging world? So, no monopoly!

However, the Canadians had to give this up because in 1992, they joined NAFTA and the Americans had put their foot down.

So anyways, to cut a long story short, from '72 onwards, the golden age of the indigenous drug industry in India began. Now we could market and manufacture exactly what we wanted to. That saw the rise of the manufacturing of raw materials. What they called it as APIs [Active Pharmaceutical Ingredients]...

TK: Now the API industry in India is separate from the manufacturers? Or the manufacturers are making their own APIs?

YH: Worldwide, 70% of the APIs produced are made in-house by companies and 30% is sold to other formulators. But I've always said and I would like to repeat it. Again I am digressing, that if India and China together stops producing APIs, et cetera, the entire world pharma industry would collapse. So it's a very strategic situation.

TK: *Your position on patents has been fairly consistent, which is, as you describe, you are not against rewarding intellectual property or its creation; it has to do more with what the patent makers claim for themselves.*

YH: It's about the monopoly.

TK: *True, monopoly, they've been granted for some time. What would you describe as the key moments from mid-1970s, now thirty to thirty-five years later, in the evolution of this position on your part, or the receptivity of your position or the lack thereof, in India or elsewhere?*

YH: From 1972, please bear in mind what happened. This is very, very important. Indian indigenous industry in pharma really took off. The multinational companies working in India, and who had 70-80% of the market, most of them packed up their bags and left India. Merck left India. Roche left India, etc. They said to hell with India. And I think that it was one of the biggest mistakes that they had made.

So essentially leaving India at that time would mean what? You couldn't care for the health of India. We Indians who contributed at that time ourselves, Ranbaxy, Cadila, Unichem, we all had set up industries, and expanded, and believe me thanklessly; all along we had received step-

motherly treatment from the government of India. They've not been really supportive for the indigenous industry. I don't know why.

TK: Even through the '80s and '90s?

YH: Yes, the '70s, '80s, and '90s. Incidentally, from about 1972 until about 1986, it was fine. Then an incident took place in 1986, which I feel is very significant. I don't know whether you are aware of it or not. At that time, in 1986, the world followed GATT—the General Agreement on Tariffs and Trade. And in 1986 it was mooted, by whom I don't know, or less said the better, that intellectual property should be a part of GATT.

So what happened? It was debated. I have given many talks on that. In 1989, a meeting was held in Geneva to ratify intellectual property in GATT. At that time in 1989, the Commerce Minister was a gentleman called Dinesh Singh. The Prime Minister was Indira Gandhi. Dinesh Singh at that time was a Communist Party card holder. He opposed this intellectual property being a part of GATT. And he instructed the Commerce Secretary, Mr. Watal and others who were going to Geneva for this meeting, that India is totally against including intellectual property in GATT.

Then I leave it to you and Harvard Business School to find out what happened at meeting in Geneva in 1989. Why did India succumb? So the less said the better.

But 1989 was the creation of the WTO, with intellectual property being part of GATT. It was '89 or '88; the dates I could not remember. Something interesting happened during that time; they had a gentleman called Dunkel. And Dunkel produced a document called the Dunkel draft, which incorporated all the points of TRIPS—Trade Related Intellectual Property System. And that was debated in India like anything. In fact, people forget that in 1992-93, under the chairmanship of I. K. Gujral, who later became the Prime Minister of India, they formed the Gujral committee of seventy parliamentarians in Delhi to study the Dunkel draft. In fact, I was invited as an individual to go to Delhi and give evidence to this committee, which I did with Gujral sitting there asking me questions.

So in December 1993, the Gujral committee report was published. They interviewed all the leading committees and societies and FICCI and CII if they were there at that time, and IDMA, etc. And what was their conclusion? The patent laws of India should not be changed. People have forgotten this now. But I have this document.

Then comes 1995, which was the death warrant for some of us, where the WTO had to be formed, and India said, “Sorry we cannot agree to some of the terms and conditions.” So what they told India was, “We will give you a ten year transition period.” We were told categorically by the Indian government that a ten year transition period meant that only those patents filed in India post-January 2005 would be acceptable.

TK: *Product patents?*

YH: Product patents, yes; the process patents were already there. And the process patents were changed to twenty years.

But we were categorically told that the transition period would only kick in post-2005. So de facto we figured that if it is 2005 and somebody invents a product in 2005, by the time the product sees the light of the day it will be ten or twenty years, so nothing really will kick in before 2020. I said that gives us a twenty-five year span in which we can do our own product development.

So we went along with it and said we will develop our own R&D. That was the period, 1995-2005, where the government allowed people to put in patents in India into what is called a black box or something, and that these patents would be opened in 2005 or whatever it was.

But come 2005, and, according to me, the totally irrational stand of the Indian government was that when they brought in the bill in 2005—the patent bill—they backdated it to 1995. That to me was the nail in the coffin: totally, totally irrational.

Then it was thrown at us saying, “You should have read what was written.”

I am a scientist; we are not lawyers, so the legal language is not for us.

I know that in 2005 the Commerce Minister was Mr. Kamal Nath, the government was probably very pro-MNC, and the bill was passed and

backdated to 1995. It was a very sad day for us in March 2005 when the bill was passed, affecting the lives of millions of Indians, without a debate, and just by a show of hands. Within ten to fifteen minutes the bill was passed, without a debate in Parliament, on an issue which is affecting the life today of millions of people, and later on which will be tens of millions.

Personally it was a very sad day for me in March 2005. And in a TV interview, I said at that time, that what India has done is set in motion a genocide, specifically in healthcare. And the impact of this will actually hit India in 2015.

The momentum that we built up from 1972 to 2005 with multinationals virtually not being on the scene, and India has been self-sufficient in medicines; the multinationals were not in the picture. From having 70-80% market share in 1971-72 and by 2004, they were 20%. They gave India up.

Now multinationals wanted to be in India, and they said, “This is what we will do.” Hell, you let us down for thirty to forty years. Where were you? So that was the situation. So now what has happened, with the cut-off date of 1995, any product invented after 1995 is acceptable in India, the product patent, because of that we can’t challenge.

There are so many drugs in the market in India, monopoly drugs, which we can’t challenge. One is Sitagliptin, which has been challenged by the way, but any of the Gliptins, Vildagliptin, for the anti-diabetic markets, they are all monopoly drugs today—and that is a very, very difficult situation.

TK: So I'd like to come back to what that means to the industry going forward. But before we do that I'd like to stay within what I'd call the early period. There are two, sort of, very celebrated actions taken by you, at least as recorded by the media, that I would love for you to reflect on. One is the AZT [Azidothymidine] and the cocktail drugs, and second is the antiviral in response to the Avian Flu and the stockpiling issue. So if you could talk about those.

YH: I will tell you what happened. First, there was this intellectual property thing in 1995, and we did really well. In the year 1991, we were working very closely at that time with the CSIR laboratories. Have you heard about this?

TK: Mashelkar... was he at CSIR [Council for Scientific and Industrial Research] at that time?

YH: He was there later on. He was a chemist when I met him first at NCL [National Chemical Laboratory]. But my friend at NCL was a gentleman called Dr. Rama Rao. Dr. Rama Rao was my friend and he assisted us with many developments of raw materials. He is still very active even at the age of seventy-eight and I am still in touch with him. I will talk about Mashelkar later.

One day in 1991, Rama Rao came to me and said, “Yusuf, I’ve developed a synthesis for AZT, Zidovudine, and the government has allowed me to collect the starting material to make it, Beta Thymidine, which can be imported without duty in India. And this drug is for AIDS.”

TK: Now how widely known was the AIDS epidemic?

YH: At that time, 1991, it was zero.

TK: But Rama Rao was on top of it?

YH: Rama Rao had come to me with that. So he and I went to Indian Council of Medical Research (ICMR) to meet Dr. Tripathi. He said to us, “Yes, India requires AZT, and Dr. Hamied you are the only person we can look to, who has the capability of making it.”

TK: What about the rest of the industry?

YH: They were all coming up.

TK: But they couldn’t have made that?

YH: It's not a question of making it; it's a question of who has the idea to do it? If Rama Rao wouldn't have come to me with this in 1991, I might not have taken it up.

To cut a long story short, we took it up. In 1993, commercially we could make AZT. And we put it in the market in the form of 100mg capsules at the price of \$2 a day. The international price at that time was \$12 a day. Now \$2 a day at that time meant I think 60 rupees a day. So in a month it meant 1,800 rupees. Nobody could afford it.

So the sales were zero. Believe me, the first six months, the sale was zero. I went back to Dr. Tripathi at ICMR. I said, "Doctor, I am sitting on 200,000 capsules of AZT, unsold, what should I do? Why doesn't the government buy and distribute it as they think best?"

He replied "Dr. Hamied, we have no money for treatment. We only have money to detect and prevent."

So in 1993, we shut down the manufacturing of AZT and got out of the AIDS drug business. But as a scientist or whatever you may call it, I kept abreast with what was going on in the area of AIDS, reading medical journals and various scientific publications, and in 1996-97, I came across an article in one of the medical journals called HAART. And this article said that a combination of three drugs controlled HIV.

TK: *The cocktail.*

YH: The cocktail. So my enthusiasm got revived and we went into it again. I said yes, this sounds something worth doing. By the year 2000, we could get all the three ingredients of the cocktail. That time, in the year 2000-2001, was very crucial because in the year 2000, almost 8,000 people were dying per day in Africa. The treatment cost was \$12,000 per patient per year, and the reason being that the three ingredients were all made by different companies. And the daily dosage ran to twelve to fifteen tablets per day.

TK: *So the compliance was poor?*

YH: Yes, the compliance was poor. In the year 2000, in July, the first HIV conference was held in Durban, and you will see a lot of this in the movie *Fire in the Blood*, the true story of HIV/AIDS, of what actually happened in the year 2000.

At that conference in Durban, July 2000, our friend Justice Cameron, he was the Chief Justice in South Africa; he stood up and said, “I am alive [because he was HIV positive]. I am alive today because I can afford \$400 a month.” So we had a meeting in London, some activists and myself in 12th August 2000, as to what can be done in HIV treatment.

To cut a long story short, I was invited to speak at the European Union on the 28th of September, 2000. And I was given only three minutes to say what I had to say. And at that meeting, there were 200 people. There were thirty health ministers from Africa. There were five prime ministers of

various countries at this meeting. It was a closed door meeting. The multinationals objected that an Indian was being asked to speak at the European Union... This is the European Union... why should a non-European speak?

So the head of the European Union turned around and told them that look, HIV/AIDS is not a European disease only. Therefore, I was invited to speak. I spoke. I said three things: one, we are making a cocktail of drugs, and we will give it at \$800 per patient per year, as opposed to \$12,000 per year; two, Cipla will give technical know-how to any government of the developing countries who wish to produce their own HIV drugs; and three, we will give the drug that stops the transmission of HIV from mother to child totally free.

TK: *That's a different drug?*

YH: One of those three, if the mother takes a dose at the time of labour, and the child takes a dose within seventy-two hours of birth, lo and behold; the child by and large was HIV free. And this was in September 28th 2000. I was so disappointed, there were no takers and nobody wrote to us.

It's a mystery to me. And then what happened, I was still in touch with some of the people who had come for my original meeting in August 2000, and one of them was a gentleman called Jaime Love.

Jaime Love who still runs a NGO in Washington, and who is also a part of this film *Fire in the Blood*. Jaime Love wrote to us in February

2001, the exact date I know, 6th of February 2001, “Doctor, can you somehow give the cocktail at a dollar a day?” So we did our homework in Cipla on the 6th of February, I remember the date distinctly and it was very difficult to do at that time.

TK: *Now at \$800 a year you were breaking even?*

YH: Yes. Fine. But not at \$300. So we said we are making so many drugs. If we lose on one or two drugs, what difference does it make? It’s a cause; it was a humanitarian approach. But we said that instead of giving it freely, we will give it selectively. Therefore, we then approached MSF [Medecins Sans Frontieres, Doctors without Borders]. At that time, in 2001, they were the biggest and the best NGO for HIV/AIDS; they’d receive the Nobel Prize a few years later.

So on the 6th of February, we wrote a fax or a telex or whatever, there was no email at that time. We wrote to MSF and offered them the cocktail drugs, two tablets a day, morning and night, at \$350. On the 6th of February, that night, I was at a dinner party in Bombay. We had sent them the fax, and there was no response to it. Then at twelve o’clock in the night my mobile phone rings:

“Donald McNeil here.”

“Yes Donald, what can I do for you?”

Now Donald McNeil, a reporter from *New York Times*, had been to India in December 2000. And then he wrote a feature article in December

2000, he interviewed me, so I knew him. It was Donald McNeil on the phone.

“Doctor, can I speak to you?”

“Yes, Donald what can I do for you?” It was late at night.

“Have you offered the AIDS cocktail to MSF at \$350?”

I said, “Yes, I have.”

“Can I ask you a few questions?”

I said, “Donald I know you so well, go ahead.”

So he asked me a few questions. And then he said, “Dr. Hamied, your life will not be the same after tomorrow.”

I laughed and I put the phone down, and subsequently I meet him quite often. I meet with him every time whenever I am in New York and I remind him of that. I say, “Donald, you’ve changed my life and I don’t know whether it’s been for the good or the bad.”

So on the front page of the *New York Times*, 7th of February 2001, was this: “Indian Company Offers AIDS Cocktail at a Dollar a Day.” And lo and behold, my life has not been the same since then. That’s all I can say.

That offer was taken up. And subsequently, today the drug is below \$100 a year. The drug that we gave at \$350 is not used any more but similar types of cocktails are being sold today at \$60 per patient per year.

TK: *That’s because the science has developed?*

YH: Science has developed. New combinations have come up, et cetera.

TK: *And the processes have improved?*

YH: The processes have improved. India today produces, in finished form, 92%, in volume, of all the HIV drugs in the world. In value, this is equal to \$1 billion. The remaining 8% is equal to \$16 billion in value.

So that's been a big change. In fact, the world's number-one AIDS drug today, by an American company, is called Atripla. In America, the price is \$24,000 per patient per year. You know at what price I am giving it to Africa? \$96 per patient per year. Now where is \$96, my dear friend, and where is \$24,000?

TK: *Now just to go back to your position on intellectual property which is a foundation of much of this, your position is that even \$96 is a fair thing to do because it more than compensates the makers of this wonder drug for whatever effort they or society has put in into making it? Is that what you are saying?*

YH: If you look at the cocktail Gilead, it has been sold today for \$24,000, and I am not discrediting them. It contains three components. The first is Tenofovir. Tenofovir was originally invented in 1992. They've got it patented post-1995. We took them to court in India, and we won our case. The Tenofovir patent was not granted in India. The second ingredient,

Emtricitabine, pre-'95 and the third ingredient efavirenze, pre-'95 was also not patented in India. So the three ingredients were not patented in India. Hence, whatever I am doing in India is totally legal.

In spite of the fact that I mentioned the ten-year transition period, all the three ingredients are pre-'95. Now what is likely to happen is that, as the resistance to drugs goes on, some of the newer anti-AIDS drugs, the major ones which are being developed and may revolutionize the HIV treatment in 2014-15, I won't be able to market them.

***TK:** Because they are now under patent in India.*

YH: Because they are under patent in India. Now if India could have done 2005 onwards, I could have marketed them. So that was the transition period.

So essentially for the newer products, we have to go with a begging bowl to the multinationals. And in India's interest I am doing that. In India's interest, where I feel that they have a very good case, I am going to them with a begging bowl. Where I feel that we can challenge some of the patents, we have challenged them, like what you saw in the Novartis case where Cipla was fighting against Novartis. We've challenged them where I've felt that scientifically we are in the right path.

TK: So, MSF took up your offer; it has had a massive effect on the world. Can you comment on other parts of the pharmaceutical industry in the developing world?

YH: See, the countries which took up an interest in HIV, which India did not by the way, were Thailand and Brazil. I think these were the major two countries that had realized the impact, which HIV could have on their countries.

India went very slowly. Much later India started the national association, NACO [National AIDS Control Organization] and what not and NARI [National AIDS Research Institute] looking into HIV/AIDS. And even today I don't think in India it's on a very proper footing, this distribution of AIDS drugs and all. I personally have a gut feeling that the figures that have been thrown about from India are totally incorrect. I would suggest you to ask Ashok Alexander [Director of the India office of the Bill and Melinda Gates Foundation from 2003-2012] as to what in his opinion are the correct figures because they've done the surveys. Because the figures thrown out by the Indian government are underestimated. The reason for that may be that the stigma for HIV is so high in this country that people don't get tested. And particularly workers in hospitals etc. are not getting tested.

TK: So let us go to Thailand and these countries. What happened in these countries? Were the governments just more receptive?

YH: The governments were receptive. The governments have promoted local manufacturing in Brazil and Thailand. And again, local manufacture means who produces the active ingredients. That to me has been the backbone of industry, and in particular the HIV drugs have not been easy to make. And to make them economical is a big task.

I must say between India and China, both countries, they have been able to get over this major hurdle.

TK: *Has Cipla played a role in disseminating some of the knowhow?*

YH: I think indirectly that we have done it all. When people leave you and join other companies, they are likely take up the same product.

TK: *So can we talk about the incidence of stockpiling the antiviral?*

YH: I will talk to you about that, but this is what has happened in the area of HIV. Then after 9/11 the next incidence that took place was Anthrax. Just to give you the story of what happened with Anthrax, we were approached again I think by Donald McNeil, on Ciprofloxacin. Because we make Cipro which was approved in America, that if the American Government wanted to, in an emergency, could we supply them Ciprofloxacin?

I said Cipla will be happy to supply, and we will give you a 500 mg tablet for ten cents a tablet. At that time do you know the price of Bayer in America? The wholesale price was \$5 a tablet.

TK: *\$5 vs. 10 cents?*

YH: \$5 vs. 10 cents. So what the American government did, they could have announced a compulsory license, they could have if they wanted to. But what they did, they took our quote and bargained with Bayer, and they brought down the Bayer price to 75 cents a tablet.

And guess how many tablets they bought. Would you like to know? 1.5 billion tablets. I would like to know from your friends in the government, as to what happened to those tablets? Where are they lying? They've all expired now. So where are those tablets? Probably at the bottom of the Pacific! But they did buy 1.5 billion tablets and paid a billion dollars to Bayer. So that was with Anthrax.

Then I will tell you a very interesting story of what happened with bird flu and swine flu. The head of the Indian FDA at that time, I forget the date of the bird flu or swine flu. In 2005, I remember sitting in my office with a good friend of mine, who later became the head of the FDA in India. His name was Dr.Venkateswarlu.

I asked him, “Dr.Venkateswarlu, tell me, if bird flu breaks out in India, what will the Indian government do?” He smiled at me and said to my face, “We would surrender.” So I looked at him and said, “Dr. Venkateswarlu, from this moment you surrender I will take up the challenge.” In front of him I picked up the phone in my room, rang up my R&D boys. It was eleven o’clock in the morning, “Get whatever literature you can on the drug Oseltamivir and come and see me in the afternoon.”

At that time in the press, and scientifically, Roche had announced that to make Oseltamivir was a 20-step process. Two of those steps are extremely hazardous. And the cycle to make these twenty steps took two years.

***TK:** So the idea was that nobody would look into it since it was so complicated?*

YH: Yes. In that afternoon, we looked into the synthesis of Oseltamivir, and it was, and still it is extremely difficult. The starting material is a plant product, which is the star-shaped Aniseed. It is called Star Anise. And it contains a chemical called Shikimic acid. Shikimic acid is then transformed into Oseltamivir Phosphate in twenty steps.

We couldn’t do it on our own. So we involved our partners in China because Shikimic acid is native to China. Roche had cornered all the Shikimic acid that was available in China. But to cut a long story short, what we had achieved today was with our Chinese partners. We couldn’t

have done it on our own. They made Shikimic acid process to step numbers eight or nine, and we had cut it down to twelve steps with no hazardous steps.

TK: So there is some original science in this?

YH: A little. What I call incremental innovation.

TK: But twenty steps to twelve steps?

YH: Yes, incremental innovation. We Indians are very good at incremental innovation. Anyway to cut a long story short, in October 2005, we were ready with it. That's when Donald McNeil wrote an article on us, on Oseltamivir.

What was the impact in India? The day we got permission to market Oseltamivir in India, the Indian government passed a law that we could not sell it in the chemist shops. They said it will be misused. People will stockpile. It is meant for bird flu. I said it is not meant for bird flu. Here is an antiviral which is for seasonal flu. Winter comes and you get seasonal flu. Hospitals need it for seasonal flu.

Sorry, only the government will buy it if they want. I said the government doesn't buy. You know as of today, and this gospel truth, they blocked us in 2005 from selling Oseltamivir in India. As of today, in 2013, and I was in the factory two days ago in Pune where it was made, we have

Rs. 67 crore [1 crore = 10 million rupees] worth of raw materials, at various stages, in stock. No customers, totally dead situation. They blocked us from marketing this drug from 2005.

TK: So why do you have these stockpiles?

YH: It has been stockpiled for the last five to seven years. If there is an emergency tomorrow, and the government wants it, what are they going to do? From where are they going to get it? At least, when all said and done, with my stockpile, within a month or two, I could give them huge quantities.

TK: Are you doing this consciously?

YH: No, this is the result of the government bringing in this law, and in spite of all efforts, believe me, they are not changing. Now is it pressure from Roche, or not? I really don't want to comment on that. And I don't want to comment against the government. We have to live with them. Isn't it?

So it is very difficult. I do not want to comment on price control. If I tell you that story, it's a horror story of what we went through on price control. And we are now in the Supreme Court against the government.

TK: So Oseltamivir is available to others outside?

YH: I can export. And our product and our formulation by the way, is WHO approved. But which country buys it? Nobody. Who is interested in this?

TK: *Well the next time there is bird flu...*

YH: Yes but in the meantime what do you do? What I mean to say, it is an antiviral drug; we introduced a second antiviral drug, which is not Oseltamivir, which was Zanamivir. Now Zanamivir is given in a capsule to inhale. It's an inhaled product. GSK also has a product and their product is called Relenza. Our product is marketed under the brand name Virenza. And suddenly one fine day the government had put Zanamivir in the same category as Oseltamivir. Both the drugs cannot be sold in the chemist shops in India.

TK: *But the GSK drug is sold?*

YH: Even Roche's Tamiflu is not allowed to be sold but if you go to hospitals, you will find it there. God knows what is happening. This ban should be removed. And if not it is very sad.

This is where I again come in, that I see other governments of the world supporting their indigenous industry. The other day I was with British Prime Minister David Cameron, when he had come to India last

month. He had called a meeting of industrialists. And it was very funny. I am seeing how they are trying to promote their own industry in their country. And here, unfortunately, I am finding that the indigenous industry is not being supported.

TK: Can I ask you about the path that many other pharmaceutical companies have taken, which is in contrast to the path I think you've taken? If you take Ranbaxy and their sale to Daiichi, or you take Dr. Reddy's and what they are trying to do, as reported in the press, as doing more original molecule research and things of that nature. Can you comment on any differences between Cipla and these indigenous industries in the last ten-odd years?

YH: I am a big believer that the words “business” and “industry” are two separate identities. A business is like what probably you saw with what the Piramals did: short term, make your money and sell out. That’s a business. Industry, in my personal opinion, we were there yesterday, we are here today, and we want to be there tomorrow. There has to be continuity. Industry, you look at long-term. Businesses, you look at short-term.

So for example, in Ranbaxy’s case, when Parvinder Singh, my friend, was alive. His two sons were not interested in the business. So they sold out. Piramals sold out. In one television interview that I gave, way back in 2005, I said categorically that by the year 2020, when the real impact of the patent law kicks in, that means you are now going back to the

pre-1972 era; you will see for a fact that multinational companies in India will be back to 70%. Indigenous companies like Cipla, in India, will be back to 30%. It is bound to happen. What you are seeing today in the Indian environment, the booming of Indian companies, is the thirty year push that we've had. The momentum continues. And we are all changing our model.

I'll give you a very interesting story. When it was 1995, Cipla's export was 10% of its total turnover. Today Cipla's exports are 55% of our total turnover. So it's a very big jump. And my target for 2020 is 70:30–70% exports, 30% local. So again, this is the scenario that I am envisaging, and I made a statement a few years ago, that by and large, the face of the Indian drug industry will change. By 2020, you will see a major change.

Let me divert for a minute. When UK Prime Minister David Cameron was here last month, he had brought with him a group from the UK Health Ministry, and they wanted me to participate in discussions, and I did take part. And indirectly what I said was that, "Gentlemen, I studied in your country in the mid-'50s. At that time in the health industry the leading British companies were ICI, Beecham, Boots, May and Baker, Burroughs Wellcome, Glaxo, and all six don't exist today. The only two companies of any magnitude that you have in the UK today is GSK [GlaxoSmithKline], which is not British, and you have AstraZeneca, the old ICI, which is not British anymore. So if you want Indian companies to come to your country, with whom do I co-operate? Can you name me ten British companies to whom I can go to? There aren't."

TK: *On the shifts in the business model, I want to ask my question again. My understanding is, and I could be wrong, some of the other Indian companies have at least made public statements saying that they are going to go in for what you'd say as not the incremental innovation; they will try to develop the capability to do original molecule research. Is that different?*

YH: May I explain to you the situation? In fact what I am telling you is a gospel truth. In the pharmaceutical industry there are two types of R&D. There is concept R&D, and there is “me-too” R&D. By concept R&D what do I mean? The first beta blocker, Propranolol; the first tranquilizer Diazepam, the first fluoroquinolone, these are concept R&D. Towards concept research in America, the American Government puts in \$31 billion last year, thirty-one billion dollars towards concept R&D, which is substantial. A company like Pfizer spends \$8 billion a year on the so called R&D, less than 10% is on concept by the way. The rest is “me-too.”

TK: *So they are, in effect, free riding on the American Government's R&D?*

YH: Absolutely. For example, the first betablocker Propranolol was invented under Concept R&D, whereas the subsequent betablockers belonging to the same family are essentially “me-too” drugs.

Similarly, Norfloxacin, Levofloxacin are similar molecules under the same class of antibiotics. To me, that is all “me-too” research. Dr. Reddy's claimed that they were doing a new work on Glitazones, but that

again belongs to a family class of drugs. They call it Concept, but to me is only “me-too” R&D.

TK: So it is not very different from what you are doing?

YH: I don't do NCE: New Chemical Entity. But what is a New Chemical Entity? The definition of a New Chemical Entity is different in different countries. In America, a crystalline shape of the same molecule is a New Chemical Entity. You ask 99% companies, are you doing concept, or are you doing “me-too”? “Me-too” means a family of drugs. And 99% are families of drugs.

Now why is this so? Concept R&D for developing a New Chemical Entity research is blue sky. You get fancy salaries, your jobs are secure; ten years, no results, so what? A leading scientist here who is working in an R&D unit here in Bangalore, no name, came from abroad, an Indian, doing fundamental research; ten years, no results... so what have you done?

We are a country today of 1.3 billion. Please hear me out as an Indian. What is the disease pattern in India? Are you aware? There are 110 million mental health patients, 80 million cardiac, 60 million diabetics, 30 million asthmatics, 50 million hepatitis B cases in India. One in three Indians has got what is called latent TB, which flares up with some other disease. I mean we are in a state of permanent crisis.

Please believe me; my only objective in the rest of my life today is that, alright, India has given up on patents. India within TRIPS and within

the current patent law, legally, you should have a pragmatic compulsory licensing system.

Now in the Indian current law, which they did not change from '72, is section 84 to 92. I'd like your students to study the Indian Patent Law, with the point of view of bringing in a compulsory licensing system, like Canada had, which would really help in addressing the Indian situation. Because we are in a permanent state of crisis.

Doha said that. You know what happened in Doha? Are you aware of the Doha Declaration? It was announced in 20th November 2001. One of the clauses in the original Doha convention was that every country can decide for themselves on what is a national crisis. In the health area, this includes TB, malaria, AIDS and other epidemics, and this was passed by 149 countries.

It came up for ratification two years later. In the ratification, the Americans objected to the words "other epidemics." They wanted the words "other epidemics" to be removed. Now at just about that time bird flu had taken over. So the country said look, there may be an unknown disease or something or a plague, whatever it may be, so you cannot remove the word epidemics. So they put it to vote.

What was the vote? Are you aware? 148:1. And who won the vote? The one vote. Veto. To date, 2013, there is no Doha. In fact if you pick up today's newspaper, there is an article by Pascal Lamy, who is the head of the WTO, on the Doha Declaration not being ratified.

TK: *The recent episode with Glivec, can you comment on the significance for the evolution of the industry?*

YH: You must understand the case of Glivec from our point of view. Cipla legally and for purposes of patents particularly, I live by the laws of the land. People say you are a pirate, you are this, that and the other. I live by the laws of the land. In India, I abide by Indian laws, in America by American laws, in England by British laws, in Germany, German laws. So you tell me what laws have I broken?

If you want to apply your American laws to me in India, I can similarly apply my Indian laws to you and say that you are a pirate. Please believe me, in my fifty years in the industry, I've not broken any law. Otherwise I should be prosecuted. Why have I never been prosecuted?

Now in the case of, let's not call Glivec, let's call it Imatinib. If you look at the history of Imatinib, Imatinib was first patented in 1992. In that original patent there was no mention of a crystalline structure. So what was the crystalline structure in the original patents? Nobody knows. If you make it according to what is mentioned in the original patent, you get a crystalline form of Imatinib, which is the beta form, which they patented in 1998. Six years later, in India, I am talking in India now. So in 1998, Imatinib Mesylate form B is patented by Novartis, and we objected to that on the grounds that Imatinib Mesylate was known in 1992, and that 1998 was no improvement over 1992. And lo and behold the patent office did not

grant them the patent, or revoked the patent. And they took it up until it went to the Supreme Court.

TK: *Was the 1998 patent granted in the US?*

YH: They did do. That is their law. It is not only their law; it is granted in forty countries, because polymorphs are allowed. Now India has a clause which is called the 3D. 3D was put in place in 2005 by the Communist Party, saying if you want our support in the patent bill, you have to put in this clause. And the Congress at that time wanted the support of the Communist Party. Thank God! They did that because that clause says that you cannot patent a different polymorph, or a salt, or an ester, etc., because that is tantamount to what is called, in our lingo, ever-greening.

The classic example of a patent is AZT. AZT was first invented in 1963. Its use in AIDS was patented in 1985 because in America you are allowed usage patents. In India, you are not allowed usage patents. So that patent of AZT was valid until 2005 for AIDS. Just before 2005, the guy who is making AZT, says AZT by itself is no good. It should be used in combination with another drug called Lamivudine. Lamivudine's patent expired in 2003 or thereabouts. But the combination product of Lamivudine and AZT expires in 2017.

So directly and indirectly, AZT is controlled, from a commercial point of view, for fifty-four years, from 1963 to 2017. Now, is this patenting is all about?

TK: What is the significance of the recent ruling for the industry?

YH: The recent ruling that Novartis challenged was section 3D. So they challenged the Indian government, they challenged Cipla, and two other Indian companies. The two other Indian companies, Ranbaxy and Natco, are insignificant. It was only us virtually fighting, essentially on behalf of India. Now that the case has been won, we've not done it for ourselves; India has benefited. Anybody can market Imatinib in India. The same way in which we won our case against Roche; the way we won our case against Gilead.

So people do ask me, are you fighting these cases? I say yes, I am only fighting half a dozen cases where I've genuinely believed that I am correct, or the science is correct, or they are not according to the laws of the land.

Do you know how many patents have been granted to multinational companies in the last four to five years? Thousands of patents. So if I've taken six out of 2000, what is the percentage? Nothing!

The other thing which is of importance in the Indian scenario, which I have objected to, is clinical trials. See it's just coming up in passing. Very interesting. In the year 1965-66, the Indian government put me on a committee called the DTAB, Drug Technical Advisory Board. And one of the first things we did at that time was on clinical trials. And we said... I was very national-minded those days—and still I am, but I am more

flexible today—what we did was that no drug will be clinically tried in India unless it is already marketed in developed countries. So from 1966 to 2008, that was the law. Any drug invented and developed in India, you could test in India totally. Because of that ruling, drugs like Thalidomide never came to India.

So that was a good ruling. If a drug was invented in Brazil, let the Brazilians try it on the Brazilians first. Well you are going to get a twenty-year-old monopoly, a worldwide monopoly. Because I still believe that with all our fighting on HIV/AIDS, the incidence of HIV/AIDS epidemic in Africa has definitely come from a faulty clinical trial, whatever anybody may say. And there is a full issue of it, I think in *Lancet* or *BMJ* [*British Medical Journal*], which actually tries to prove that it was a faulty trial.

TK: As I take it, the essence of your position for the last forty to fifty years has been that there is no objection to intellectual property per se. It has to do with fairness of the compensation for the so-called innovator of the intellectual property, who is himself or herself typically free-riding on some taxpayer finance. That's point number one. The second point is that the intellectual property regime of a country should be a function of the particular disease pathologies of that country, when we think about health and pharmaceuticals, and therefore per se there is no reason why there should be a convergence in the process of patents, etc. Those two are the foundations of your position and you've been fairly consistent on them.

YH: Again, my position today is monopoly. There should be no monopoly, just a willingness to pay the originator a suitable compensation. And that India should not be deprived of newer drugs and be at the mercy of the innovators. But today, for example, your bird flu or swine flu is an example. Your patent on Oseltamivir in America expires only in 2016, another three years to go. God forbid there is an epidemic, what happens? Should the destiny of the world be in the hands of one company, Roche? That's my question to you.

I remember at the height of the problem in America, Donald McNeil phoning me and saying, "Yusuf, could you supply Oseltamivir for children?" I said, "My product is approved by WHO, not in America, because the patent only expires in 2016."

"Would you be willing to supply to the American government?"

I said, "Of course! Anywhere in the world."

You know I am there to save lives. I am firm believer that if you are in the healthcare business like Cipla is, it's not a business per se. It is a business, plus you are also saving lives. So it has to have a humanitarian angle to it.