

An Interview with A.J. van den Hul

The Dutch Gaul

*Original text by Walter Fuchs
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We are in the year 1999 after Christ. The whole world is occupied by the Digitals. The whole world? No! An unbending Dutchman does not stop offering resistance to the Digitals. He winds coils with copper, silver and gold. And life is not easy for the Digitals once they have listened to music with them.

It is no high-tech temple that I am visiting, but a typical Dutch farmhouse. At the entrance I stumbled over scaffolds since the roof was just being repaired. And narrowly the youngest, 2 1/2 year old sprig of the family ran across my way. Guess here: Right! It concerns an interview with Van den Hul.

Question: *Mr. Van den Hul, entering the yard here, if one doesn't just fall over the roofer stands one stumbles over a considerable number of small children as they are just around now and not on the way with their bikes. Are they all yours?*

Van den Hul: All my own children.

Question: *How many do you have?*

Van den Hul: I have 3 children from my first marriage and 3 from my second.

Question: *Do you in this manner take care of the new generation in phono cartridge manufacture? And which of your children have already refused this profession?*

Van den Hul: The three children from my first marriage have refused it. Of the children from my second marriage none has refused. As a matter of fact when I'm not present my oldest son goes sitting behind my desk and tinkers with the things that lay there.

Question: *And how many phono cartridges have gone to the happy hunting-grounds in this manner?*

Van den Hul: Fortunately only one. Since my son had decided to collect some screws with the magnet of this phono cartridge it completely ruined the coil. I therefore had to make a new phono cartridge. The customer was lucky to have received a new phono cartridge.

Question: *Can we have a glance into the inner sanctum in which several thousands of phono cartridges have been (and hopefully some thousands more will be) screwed together?*

Van den Hul: Naturally, come with me (proceeds). Here in this room, on these 1.5 square meters everything is built. (He points at a medium sized desk).

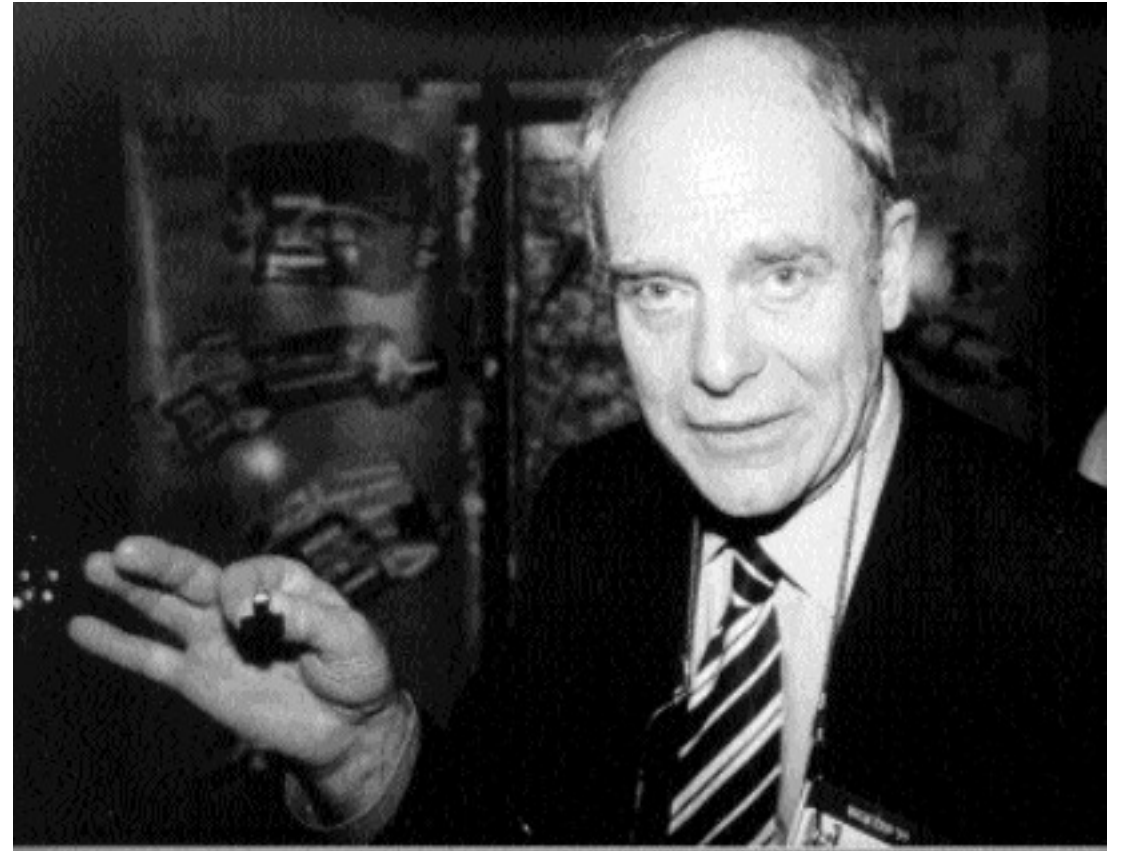
I am now standing in a room in which I have decided only to turn myself very carefully. I am surrounded by what one could call a well sorted chaos; anyhow I hope that it is well sorted. To me at first glance it is just chaos. This desk is dominated by a large, hopefully firmly attached microscope. That raises a question.

Question: *How calm does your hand actually needs to be in order to wind a phono cartridge coil?*

Van den Hul: Very calm. The wires have a diameter of 20 micron, and each false movement shows the corresponding results.

Question: *Are all coils hand-wound here?*

Van den Hul: The coils are partly wound by machine, only the final tuning and adjustment is done by hand.



Van den Hul, the Dutch developer today ranks world-wide among the most important manufacturers of phono cartridges.

I see a camera mounted on the microscope.

Question: *What's that for?*

Van den Hul: With this camera I can always create a photographic documentation of a phono cartridge. That can be important with repairs or requirements for compensation, for example, if customers have cleaned the stylus by means of an oil containing substance. In the long run the oil destroys the suspension rubber. And with the camera I can give evidence of that.

Question: *What is the critical phase during the building of a phono cartridge?*

Van den Hul: The alignment! Always the alignment. That is always a cross between the interpretation of that what one sees and that what one does.

Question: *What do you understand by alignment?*

Van den Hul: That is geometrical exact positioning of the coils in the field and likewise positioning the suspension and the stylus at the correct angle.

We leave the room again and sit down to a round table on which the coffee already steams.

Question: *Mr. Van den Hul, how old are you?*

Van den Hul: I am now 61.

Question: *Have you already considered once who will make the phono cartridges when you have stopped, or will the world then weep?*

Van den Hul: When I will stop someday then not everything else will stop. Besides, in Thailand a Buddhist monk has told me that I will become 85 years old. So I have still at least 24 years during which I can build phono cartridges. Surely, a solution would also be found here in the company. And the youngest son, who is now exactly 2 years old, will then already be a little older. He always watches with interest. Besides he frequently is hitting some things with a hammer, I rather think he has technical qualities.

Question: *Your phono cartridges belong to the best available on world market. What kind of excuse can you offer for building such good phono cartridges?*

Van den Hul: I am happy that my ears are very sensitive. From my education I have the ability to put this into corresponding technical solutions. I am very engaged in this activity, and that means that I have spent many thousands of hours on it. So when you are non-stop busy with constructing, improving and experimenting and do comparative listening you do get lots of experience and knowledge. On this account you can continuously manufacture new and improved products. Like, for instance, last week when I have built a new thing again.

Question: *What is your original education?*

Van den Hul: I am an electrotechnical engineer with lots of additional physical education. In the past I developed measuring instruments for an acceleration device, a proton accelerator (a device belonging to the area of nuclear physics). All of this concerned vacuum, metal working, measuring and calculating. There, as a matter of fact, I had to do with magnetic fields for the focusing of atomic radiation. That was a quite broadly disciplined development area in which I also had a lot to do with amplifiers and measuring instruments.

Question: *When did you start building phono cartridges and why?*

Van den Hul: That is a story connected with my father. He was a producer with Philips and Decca. When he died in 1948 he left me quite a large amount of records. In the beginning I did not handle them very carefully. Only later I realized that this was a valuable inheritance. I then built my own record player, tonearm and crystal pick-up. Once started, you can't get it out of your mind. Actually everything is due to this first record player.

Question: *How long do you already build phono cartridges?*

Van den Hul: I started somewhere around 1972 or 1973. I already performed phono cartridge repairs at the end of the sixties. In 1978 I had the first successes with it. Actually, since then I am continuously busy building phono cartridges, and that almost each day.

Question: *Although this interview mainly concerns phono cartridges, one should not forget to mention that you also manufacture some other things. You manufacture several cables and electronic devices.*

Van den Hul: When you want to build an optimised transfer chain then you have no choice but to concern yourself with all sections of the chain. That means that you don't stop at the cantilever, the coil or the input stage, but you have to

concern yourself with everything. Cables are the inevitable result of such an attitude.

Question: *Back to the phono cartridge! Wouldn't you also say that the possibilities in building phono cartridges have got quite exhausted by now?*

Van den Hul: I do not believe that the possibilities of this technique have been already completely exploited. Improvements in detail are still possible to reach a higher precision, resolution or definition.

Question: *I have a theory: Only when the digital era arrived the analog technique experienced a real upswing. Never before there have been as many good record players, phono cartridges and tonearms, although all people sing the death song of the analog era.*

Van den Hul: Not all people have joined in this song. Actually, it were those who made their money with the digital devices and sound carriers. Those people have thought that analog should die. Therefore, also lesser quality records have been cut and pressed. On the basis of that they wanted to prove that digital was better. However, a very strong reaction came from the remaining analog lovers, who, among other things, also manufactured even better analog equipment. That's why analog today has reached a position in which it can maintain full ground beside digital and can surpass it in many cases by far.

Question: *After all you can say that the fund of available and also new pressed records is almost inexhaustible. So, I actually don't observe a lack of sound carriers.*

Van den Hul: That's what I also think. There are so many good records, shiploads of them. And on them so much good music can be found that digital recording cannot catch up with that for the next 50 years.

Question: *Your phono cartridges belong to the rather high-priced objects. A Black Beauty costs almost DM 7000. There are, however, a number of turntable manufacturers that make already excellent units in the price segment up to DM 1500. Do you offer a phono cartridge for units in this price class?*

Van den Hul: For that range we also have moving magnet phono cartridges and as an entrance model into the moving coil world the DDT. The DDT was actually my first moving coil system. Today this system already leads something like an independent existence.

Question: *Now I have some special questions that mainly refer to my last tests with your system. All of your last constructions have a tiny magnet mounted in form of a nose at their front side. You call this a magnetic vacuum cleaner. What do you mean by that?*

Van den Hul: That is really a magnetic vacuum cleaner. It is hard to believe how many phono cartridges I have repaired in which I have found metallic particles in the magnet gap. These can lead to a complete failure of the phono cartridge. Therefore, I thought of building a small strong magnet on front of the cartridge which first sucks up all magnetizable metal particles present on the record. Additionally, due to this magnet the strength of the magnetic field in the magnet gap rises, thus, also increasing the system's output voltage. This sticking out magnet likewise forms a mechanical protection for the cantilever. That has saved many people the repair of broken off cantilevers.

Question: *How come that a phono cartridge like the Black Beauty still sounds so different in comparison to a cartridge from the Grasshopper series, e.g. the Grasshopper IV Gold?*

Van den Hul: That is mainly because of the different shapes of the coil. With the Grasshopper the core of the coil is square shaped and with the Black Beauty cross shaped. This results in differences in the channel separation due to the disposition of the moving mass of the coil, which in the end is responsible for the channel separation. It is possible to insert other suspension rubbers which again benefits the reproduction too. With this building method you have to take a slight loss of dynamics but on the other hand you get an increased spatial reproduction. I personally mark the better spatial reproduction positively against the slight loss of dynamics. Additionally, you get an increase and, thus, an improvement of the channel separation.

Question: *The Grasshopper systems are available with gold and silver coils. Are there also such versions of the Black Beauty?*

Van den Hul: Yes, there are. The Black Beauty is also available with silver coils.

Remark: That phono cartridge is named The WHITE BEAUTY. —A.J. van den Hul B.V.

Question: *What is the general difference?*

Van den Hul: I can wind the gold coils somewhat better. That results into a better and finer reproduction. You could call the model with the silver coil the people's model.

Question: *Please explain the difference between the Black and the White Beauty.*

Van den Hul: The Black Beauty has a gold coil and the White Beauty a silver coil. That is the entire difference.

Question: *Actually, silver is the better electrical conductor compared to gold. Why do you still take gold as coil material for the flagship?*

Van den Hul: The electrical conductivity and the resistivity are not everything. It also depends on the stability of the conductivity. Thus, gold is better than silver. This material has the higher long-term stability. Seen in the long run the system does not change. It also has something to do with the fact that gold is softer than silver. Because of that less fatigue occurs within the material. This characteristic is to be marked more positively the softer and more flexible a material is. Regarding that, 24 carat gold is the best material.

Question: *Do you give recommendations for specific tonearms with your phono cartridges?*

Van den Hul: The lighter the better. I am not a friend of single point suspension tonearms, especially when they do not operate precisely enough. I also know tonearms that have been manufactured so imprecisely that all phono cartridges have to be installed in a wrong position. In that manner during tracking you even don't reach the correct zero (-error alignment) points. Notably, with one American tonearm manufacturer this error does occur. Therefore I build phono cartridges for those American arms with a built-in error in order to compensate for these other errors. So please no single point suspension; I only know one positive exception. Otherwise, I think it is simply a too heavy job when a system has to lead the entire arm. I consider most Japanese arms to be too heavy. That is especially negative when you have curved records. This strongly increases the load on the cantilever. Meanwhile, however, also several very good constructions exist on the market. I am happy to see that the development doesn't stand still.

Question: *There are a number of extravagantly expensive phono cartridges on the market. What is your standpoint with regard to a phono cartridge with a sales price plainly exceeding DM 10,000? Do you consider this as being justified at all?*

Van den Hul: No! I know the material costs and the time that is needed to build and adjust such a phono cartridge. The trade demands too high prices and profit margins for passing on such an object. From the manufacturer's point of view these prices, as they exist in the trade, are not justified. On the Frankfurt high-end show people frequently ask me why my products are so expensive. I can hardly reply, have a talk with your friend, the dealer. If he reduces his profit margin then you receive a first-class product at a very good price. If the same conditions as in the automobile trade would apply to our business, then all products would be substantially cheaper. It seems to be a question of habit that the hi-fi trade requires such high turnovers. And I find it sad that the dealers do not see that thereby they break down the trade after all. As a result the amount of those people that all in all can acquire such things is strongly reduced. And it probably leads to the fact that more and more manufacturers will sell directly to the final customer and that in any country only one single general importer will be existing at the most. And that has the consequence that there is no more trade. That also applies to large trading firms that are actually not suitable for the hi-fi trade anymore. If they would operate with normal profit margins, then by the reduced prices they would surely make more returns. These sales would again be of benefit to the manufacturer who would be able to produce more and to the final customer who would have to pay less.

Question: *Now quite a harsh question: How well qualified do you consider the average German or Dutch dealer to demonstrate analog, to install, to fine-tune and set up correctly as well as to look after the entire consultation and support?*

Van den Hul: (Sighs) Fortunately, there are young people taking their place that were presumably trained by older people. And there are those people that are interested in this field. However, I day by day have some repairs here that simply result from the fact that the dealer tightens a couple of screws too tightly when mounting a system and thus damages the cartridge's body and the like. And when I receive these things for repair I ask myself why I take the trouble trying to explain to all people as precisely as possible how they have to mount phono cartridges.

Question: *In order to get to the bottom of your diplomatic answer: So you do not value the qualification very highly?*

Van den Hul: Correct! But fortunately there are still enough exceptions.

Question: *We come to the repairs: Do you by principle repair every phono cartridge?*

Van den Hul: Yes, with the following exceptions: Dynavector 17 and 23, Audio Technica only on special customer demand and the Denons of the thousand series. For some systems I simply do not have the material.

Question: *From where do you get your materials, such as suspension wires or suspension rubbers or possibly also small boron tube?*

Van den Hul: Especially regarding the suspension rubbers that is a very big problem. There are no more manufacturers that still make these things. I have bought large quantities of materials which will last me for some time. And in the USA I have bought 12 kilometers of small boron tubes.

Question in between: *Is the boron directly manufactured as a tube?*

Van den Hul: No, it is not. It concerns a wire. This is then drilled out with a laser. For that I have a manufacturer. I have saved up many parts that are universally usable in most phono cartridges. It is not commonly known: many phono cartridges are produced by very few manufacturers. When you open the housing you can immediately recognise by which manufacturer the cartridge was made. So you don't need an unlimited number of spare parts.

Question: *Every system, irrespective of its manufacturing origin, has its own sound characteristics. When you repair or rebuild such a system you use your own materials, like for instance, rubbers or cantilevers. How are the sound qualities of such a system afterwards?*

Van den Hul: I have repaired far more than 20,000 systems here. So every type of system that can be found in the world surely has been here already. All systems have distinct refinements in their construction. These determine the sound. With some experience you can reproduce such refinements again.

Question: *When is it no longer worthwhile to repair a system?*

Van den Hul: Only then when the costs are too high.

Question: *Can you actually imagine phono reproduction with another system than yours that doesn't give you the creeps?*

Van den Hul: No no no! Upstairs I have a collection of 50 to 60 phono cartridges which I have collected in the course of time. I have enjoyed every one of them. You should listen to music and not always point a technical ear to the system. I think that music is more important than technique!

Question: *Originally, the moving coil phono cartridge is the only hi-fi device that has a symmetric nature. It is possible to carry out the amplification behind the cartridge directly in a symmetrical manner. Do you have a certain preference for a connection method? And what is your opinion about balancing by means of a transformer?*

Van den Hul: A symmetrical connection is better than an asymmetrical one! With it you reduce possible irradiation of noise, and that can be heard! When using a transformer the entire signal chain includes a second magnetizable component. Due to its own behaviour this again introduces an inaccuracy in the chain. I therefore say: rather not!

Question: *To my opinion very many phono input stages are wrongly designed. Generally they are implemented with a too low impedance. This low impedance nature still originates from the times when it was not yet possible to build input stages that were sufficiently low-noise. What is your point of view?*

Van den Hul: In former times such low valued load resistances were introduced in order to damp the systems' frequency response peaking at high frequencies. Meanwhile it is technically possible to build systems that don't show high frequency resonance symptoms at all. So damping is unnecessary. Preamplifiers should exhibit a value that is 10 to 20 times higher than the impedance of the phono cartridge. However this can lead to problems with cartridges that are not correctly built. With high load resistances these show a strong rise in their high frequency response. Any technically right system can untroubledly be terminated with a high load resistance.

Question: *How meaningful is it to build phono cartridges which exhibit a frequency response up to 50 or 60 kilohertz, since also the best analog tape machine has its limit at approximately 38 kilohertz when perfectly calibrated?*

Van den Hul: If there only would be frequencies up to 20 kilohertz I also would say that it is senseless to pass on more. But let's take a hit on a cymbal: surely frequencies are present there that go beyond 20 kilohertz. Also, due to the high frequencies, there are intermodulation products that appear below 20 kilohertz. So, when I strictly limit such a system to 20 kilohertz I probably hear the products that are grouped below this frequency, however not what goes beyond 20 kilohertz. So I am missing a part of natural hearing. The higher the natural bandwidth of a device the better I consider it to be suitable for the transmission of audio. That also applies to all other devices, like for example amplifiers. I have made measurements which showed that even in the inner grooves of records it was possible to reach a transmission bandwidth of more than 50 kilohertz. That means that my needles enable a very large transmission bandwidth. In former times that was important if one wanted to achieve a reasonable reproduction of CD-4. Unfortunately there aren't very many of such records.

Question: *What kind of music do you prefer?*

Van den Hul: I love classical music, especially pieces from the period of Johann Sebastian Bach and of the Italians I love the renaissance musicians.

Thank you for the interview Mr. van den Hul.

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