

WIM BROUW JULY 2017 – Reinder van Duinen

Dear All,

It was to be expected: Harry van der Laan would take by far the biggest time slice in this part of the proceedings.

That suits me well; my contribution this afternoon is rather more limited in scope and depth. The explanation for this is that the professional orbits of Wim and me have had little overlap. When in 1995 I took up to chair NWO – the nominal ‘owner’ of ASTRON - Wim had already departed for Australia. When he returned to The Netherlands I had taken up other interests. So, rather than to talk about Wim I will say a few words about the institutional arrangements in which he and ASTRON operated.

I mentioned that ASTRON as an organisation is part of the Dutch science funding organisation NWO, but having said that, the reality is rather more complicated. Without the Stichting Radioastronomie van Zon en Melkweg, later called ASTRON, there would probably not have been ZWO, later NWO. In the late forties and early fifties, next to the Stichting, other similar research structures were founded, such as FOM for Physics and CWI for mathematics. These institutes were created in reaction to the relatively sorry state of science in The Netherlands after WW2. Soon the government decided that having such institutes report directly to the ministry was not such a great idea after all and a new structure emerged, putting the institutes at some distance from the central government. That decision was undoubtedly wise, as a result of which we still enjoy a couple of excellent world-class research institutions, among them ASTRON. At the time ZWO struggled a bit with The Royal Academy of Arts and Sciences on who should be responsible for which institute but these disputes were settled quickly and by and large this structure in which both NWO and the Academy each have a couple of research institutes under their wings has survived the following decades. The Stichting came under the auspices of ZWO. I dare say that didn't mean much for the way the Stichting was operating, for them it was ‘business as usual’. In the course of the years it did happen that a project would get a bit out of hand, or some director or other had more ambition than the budget would allow for and corrective actions were necessary. But on the whole the two organisations ASTRON and NWO behaved reasonably well towards one another. NWO acted a bit like parents would towards their ASTRON children in the age of puberty; both were quite reasonably in general and both behaved with a sense of shared responsibility towards the radio-astronomy community. That is how I would characterise the multi-decades long relationship. I would not be surprised if some adolescents in the audience would see it differently.

The ultimate reason for having research institutes under the umbrella of either NWO or the Academy is course to offer a relatively save and stable environment for long-term high risk research. An environment where adventurous instrument development can be undertaken and commitments for long-term national and international collaboration can be made that

are (or were at the time) not well suited for a research unit operating in a University setting. I am not altogether sure whether or not the last argument is still valid in this day and age. Universities in general have evolved into well-managed professional education- and research enterprises and are nowadays capable to organise themselves nationally and internationally. NOVA, the research school for astronomy in The Netherlands is an example of well-functioning inter-university research collaboration. One may therefore question the validity of having institutes under the NWO and/or the Academy.

And miraculously this issue arises roughly every decade or so when a newly appointed Secretary for Education and Research deplores the complexity of the institutional arrangements under his auspices. After all, especially NWO has a serious conflict of interest; it funds research in a large variety of fields and by a large number of individuals and groups. Can NWO be trusted to be completely fair in its judgement and adjudication decisions when the same organisation also has to take care of its own institutes and researchers? In my time at NWO Secretary Ritzen asked that very question. My response at the time was something along the lines of "If it isn't broke don't fix it". Not a particularly strong defence for the status quo but we got away with it then. But only for another ten years or so, right up to the recent reorganisation of NWO.

This might serve to illustrate that the relationship between NWO and its institutes is not without tensions and occasional discomfort. And that tension serves both sides well. It keeps both alert and on their toes to ensure that the institutes deliver world-class results and for NWO to stick to its commitments and to remain completely fair in its dealing with its own institutes. In that spirit let me confess that when I came to NWO in 1995 I was not particularly charmed by the location of a high-class research institute in the middle of nowhere in Drenthe. Understandable as far as a location for the observing facilities is concerned for the obvious reasons of EM interference, but much less so for a complete institute devoted to the advancement of instrumentation and data processing. I believed then and still do that researchers at the frontier of science and technology should not be so isolated but should live in and be exposed to an academic environment as diverse as possible. But I decided at the time I should not pick battles that I could not hope to win and rested my case. Instead the priority lied in the closing 23 of the 26 Foundations that I inherited in NWO. Yet, I still think that science in the Netherlands would be even better served than it is today by a national institute for advanced instrumentation development and data reduction. Think of a combination of Space Research, High Energy Astrophysics, ASTRON, parts of NIKHEF and Structural Biology in a new institute in Groningen. In my view this would cater for the future requirement for our country of remaining competitive now that other regions and countries like China begin to catch up in the natural sciences. We should not forget that access to world class facilities for our astronomers and high energy physicists is only possible because of our outstanding instrument development capabilities. And we better keep that position in the top league, or else.....

This brings me to Wim Brouw. No excellent and spectacular discoveries without excellent instrumentation and software to collect data and to make sense of them. Undeniably the people that create, develop, maintain and run these facilities occasionally get hidden behind the discoverers of new insights. However marvellous and clever you are as an astronomer, a mediocre (radio) telescope does not get you the results you'd want. Wim Brouw for me is the man behind the data reduction for Westerbork Synthesis Radiotelescope, but as we saw today he did much, much more. We luckily have a couple of others like Wim in the Dutch Science system. And new stars are emerging with some regularity in Space research, High Energy Physics, Biochemistry, Gravity Waves to mention a few. People that are motivated and stimulated by what great new discoveries can be made, but are primarily driven by the desire to design and build a machine that is more sensitive, offers better spatial and/or time resolution, is much more stable and has a greater dynamic range than its predecessors. I recognise and know that drive only too well. These people are often the silent enablers of great science. And they grow, develop and mature in the environment of institutes like SRON, NIKHEF or ASTRON. Here, it is not primarily the publication lists or citations that count, or the quality of teaching. Their primary contribution to science lies elsewhere in the chain: the design, development and maintenance of equipment, operating at the limits of what is physically possible.

It absolutely justified that today on the eve of his 77th birthday we are celebrating Wim's contributions to astronomy. In him we honour an especially vital talent and ability in the population of researchers. It was a pleasure to contribute to this symposium in his honour.

July 6, 2017