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The Eagle and the Dove

A tribute to Hilmar Willi Duerbeck

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Abstract

This eulogy was written in memory of Hilmar W. Duerbeck, who died suddenly and unexpectedly on Thursday the 5th of January 2012, at the age of 63. This writing is not a classical obituary, but is a set of recollections about the most wonderful and very special person that Hilmar was, about his life, and about the way we have worked together. This document is based on archived letters, emails and memories of conversations and discussions, and also includes the personal webpage that he designed and maintained at the University of Brussels.

Figure 1: Hilmar W. Duerbeck Klarenthal, 19 June 1948 – Schalkenmehren, 5 January 2012.

IF DEATH WILL ONLY GRANT ME THE TIME REQUISITE FOR THE EXECUTION OF THE WORKS ALREADY PROJECTED BY ME, I WILL PROMISE TO ENTER UPON NO NEW UNDERTAKING, AND INDUSTRIOUSLY TO PROSECUTE THE OLD ONES; AND EVEN SUCH AN AGREEMENT WOULD DEFER THE END OF LIFE NO INCONSIDERABLE PERIOD.

BUT DEATH TROUBLES HIMSELF NEITHER WITH THE EXECUTION OF OUR PROJECTS, NOR WITH THE IMPROVEMENT OF SCIENCE.

Gottfried Wilhelm Freiherr von Leibnitz

Eine Biographie, G. E. Guhrauer (1842)
Life of Godfrey William von Leibnitz,
translated by J. M. Mackie (1846)

1 Introduction

This eulogy is in memory of Hilmar W. Duerbeck. This paper is not a classical obituary, nor a discussion of his scientific achievements: it comprises a set of recollections about the most wonderful and very special person that Hilmar was, about his life, and about the way we have worked together during two decades.

This introductory Section gives a short summary of the main facts related to Hilmar Duerbeck's life and work. A detailed list in curriculum vitae format is reproduced in the Appendix, and a corresponding obituary has been published on the website of the *American Astronomical Society*[1] and in the Journal of Astronomical History and Heritage (Sterken et al. 2012).

On Thursday 5 January 2012, Hilmar Willi Duerbeck died suddenly and unexpectedly at his home in Schalkenmehren, Germany. Hilmar was the widower of Waltraut Carola Seitter[2], who passed away on November 15, 2007.

Born in Klarenthal (near Saarbrücken in Germany), Hilmar Duerbeck[3] studied physics at the University of the Saarland in Saarbrücken, and astronomy at Bonn University. From 1975 to 1991 he was scientific assistant at Hoher List Observatory, and astronomy lecturer at the University of Münster, Germany.

He has occupied various educational and research positions abroad (Chile, USA, Belgium, Australia), and he was a member of several international organisations, in which he

[1] `http://aas.org/baas/obits/all`

[2] `http://en.wikipedia.org/wiki/Waltraut_Seitter`

[3] His native surname was Dürbeck, and his Dissertation still has the ü in his name. His publications listed in the SAO/NASA Astrophysics Data System (ADS) give ue as well as ü in 1973, but from 1975 on, he consistently replaced ü by `ue`, even in papers written in German (Dick 2012).

served in numerous panels and commissions. From 2006 on he also was secretary of the *Arbeitskreis Astronomiegeschichte* of the *Astronomische Gesellschaft*[4] in Germany, and he also chaired the IAU *Working Group on Venus Transits*[5]. He was an expert on novae, novae remnants and supernovae, and on cataclysmic variables and flare stars.

Hilmar was a very prolific writer, and a most active Editor. He has been member of the editorial board of the *Information Bulletin on Variable Stars*[6] (Budapest, Hungary) and of the Editorial Board of the book series *Acta Historica Astronomiae*[7], and he was also Associate Editor of the *Journal of Astronomical History and Heritage*[8] (James Cook University, Australia). Since 2000 he was co-Editor of *The Journal of Astronomical Data*[9].

The main-belt asteroid 1989 SW2, discovered by Eric W. Elst at the European Southern Observatory, has been named 9327 Duerbeck.[10]

2 Three questions on the relevance of this eulogy

This article draws on my recollections, and on written statements by Hilmar Duerbeck to myself and to others. All quotes that were addressed to myself are given along with the date, and passages addressed to others are quoted with the name of the recipient. Some of these reminiscences are inevitably coloured by the personal relationship that I had with Hilmar. Nevertheless, many "facts of the past" – even anecdotes – recollected here are highly reliable. And, as far as sources are concerned, the content of this paper is to be viewed as an integral part of the history of contemporaneous science.

The first question to pose is *Is this information historically – even scientifically – relevant at all?* McMullin (1970) distinguishes two principal senses of "science":

1. either a collection of propositions, i.e., theories, data, interpretations that he calls S_1,
2. or a second body of information S_2 that he considers as the ensemble of the activities that affect the scientific outcome **in any way**.[11]

S_2 contains S_1, but is far broader and vaguer than S_1. Evidently, scientists are primarily interested in S_1 because it is measurable towards a scientist's achievements (for example, as expressed by citation-count databases),[12] whereas S_2 is soon forgotten – except by historians of science.

The second question is whether the S_2 information presented here is relevant at all in the case of a scientist of the caliber of Hilmar Duerbeck, i.e., one of the thousands *apparently*

[4] Working Group on the History of Astronomy: `www.astro.uni-bonn.de/ pbrosche/aa/`
[5] `http://www.astro.uni-bonn.de/~pbrosche/iaucomm41/wg/transits.html`
[6] `http://www.konkoly.hu/IBVS/IBVS.html`
[7] `www.harri-deutsch.de/verlag/titel/aha_00.htm`
[8] `www.jcu.edu.au/eps/disciplines/astronomy/JCUPRD_044508.html`
[9] `http://www.vub.ac.be/STER/JAD/jad.htm`
[10] `ssd.jpl.nasa.gov/sbdb.cgi?sstr=9327;orb=0;cov=0;log=0;cad=0#discovery`
[11] My emphasis.
[12] Although, from what follows in the subsequent Sections, it is more than obvious that any bibliometric index, such as, for example, the Hirsch index, is inevitablly biased for a person with Hilmar's profile.

less exciting scientists who may remain beyond the reach of biography – or as Kragh (1987) puts it: run-of-the-mill scientists. The answer is: unquestionably yes, because Hilmar Duerbeck was a most exciting scientific personality, and definitely not a run-of-the-mill intellectual highflyer.

The third question to consider is how Hilmar himself evaluated and looked at obituaries and necrologies altogether. This question can be best answered by citing his own words on this matter (24 March 2004):

> *There was no good obituary of Lancaster*[13] *in Ciel et Terre, just some "hot air" (I mean nice words, but no information) [. . .] I am also not in favor of such hollow phrases – at least I would not like to read such bulletins about myself [. . .] the only letter I really wrote in the last half-decade was to Herrmann*[14] *on the occasion of his wife's death, since we knew her very well, and liked her.*

He was also of the opinion that

> *. . . historical activities can of course be reconstructed from publications and archives, but we should also take the chance to encourage senior colleagues to present – either personally or in written contributions – their views and their adventures in shaping the course of astronomy [in Chile].*[15]

This paper thus cannot be a classical hagiography or uncritical black-and-white story of praise, it is just an attempt to record historical information about the activities and behaviour of the scientist Hilmar W. Duerbeck and his entourage, information that otherwise will, for sure, get lost.

3 Personal early reminiscenses

I do not recall when exactly I met Hilmar, and his wife Waltraut, for the first time – it was in the late seventies – but the place we met was very dear to both of us: the ESO[16] La Silla Observatory in Chile. I vividly remember this married couple working together in the darkroom of the ESO 1.5-m telescope. In fact I – and many of us – cannot possibly disentangle these two people, simply because the impact on their colleagues' careers and on their students' lives plainly emanated from both persons: their kindness radiated as if it were coming from just one single soul.

The earliest written reference to him that I can find in my records is a letter from Martin Hoffmann (dated 26 November 1981), informing me that both he and Hilmar were willing to

[13] Albert Lancaster (1849–1908), Belgian astronomer and 1882 Transit of Venus observer.

[14] Dieter B. Herrmann.

[15] Letter of 16 October 2005 to Nikolaus Vogt, about becoming SOC member of a meeting on the history of astronomy in Chile.

[16] European Organisation for Astronomical Research in the Southern Hemisphere.

observe the β Cephei star BW Vulpeculae from the Hoher List Observatory during the 1982 worldwide observing campaign that I was organising. Apparently, no data were collected, since neither Hilmar nor Martin coauthored the paper (Sterken et al. 1986).

Our contacts became increasingly regular in the framework of the *Long-Term Photometry of Variables* project that was initiated in 1981 (LTPV: Sterken 1981, 1983). The first LTPV observer from Münster was Heinz-Albert Ott, in September 1983. Waltraut became a very vivid supporter of this observational project, and in the summer of 1983 she invited me to "her" Astronomical Institute at the University of Münster for giving a series of lectures entitled *Spezielle Themen der Beobachtenden Astrophysik*[17]. In the same year, Mart de Groot gave the wintersemester *Sterne mit Ausgedehnten Atmosphären und Bemerkungen zu Spektroskopischen Doppelsternen*[18]. Both Hilmar and Mart frequently traveled to La Silla to observe for this project (this led to the first data catalogue, see Manfroid et al. 1991), and many a student of Waltraut followed in their footsteps. Hilmar and Waltraut offered warm hospitality and support to several observers and also to the Principal Investigators of this project, especially at one memorable executive meeting on 28 July 1982 at the *Münsterhaus* – a house in Hembrich street in Schalkenmehren that was rented by Münster university to accomodate Waltraut's students during observing trips to nearby Hoher List Observatory.

This Seitter–Duerbeck connection led to many more contacts, of which my most vivid memories relate to

- Siegfried Lührs, a high-school teacher at the Nordenham Gymnasium, who was preparing a doctoral thesis under the supervision of Waltraut (Lührs 1991), and who had to carry out a photometric observing run at Wise Observatory in Israel. Because he had limited observational experience, he needed a crash course in photometry, for which he was sent to Brussels in 1982.

- Michael Geffert, with whom I observed comet Halley from Hoher List Observatory in August 1985.

- Liu Zongli, from Beijing Observatory, who used the two Münster Perkin–Elmer microdensitometers during a stay of more than one month in 1988, for scanning photographic films obtained at Mt John Observatory (New Zealand), photographic glass plates obtained in Beijing, as well as images obtained by Hilmar with the GPO[19] from Chile. The impact of the Seitter–Duerbeck hospitality on Liu's work (Liu et al. 1999) was tremendous. Liu (2012) affirms this: *"He helped me a lot . . . "*.

  On 26 July 1988, Hilmar sent me a note:

  > *Today we brought Dr. Liu to the train, and we are sure that he will find his way to Brussel and La Silla. He did a lot of plate scanning, and I look forward to work with you on the data.*

[17] *Selected Themes of Observational Astrophysics.*
[18] *Stars with Extended Atmospheres and Remarks on Spectroscopic Binaries.*
[19] The *Grand Prisme Objectif* telescope at ESO La Silla.

- Barbara Cunow, who in September 1990 accompanied me to Jungfraujoch Observatory (Switzerland) for a photometry training session.

4 A private scientific career

A couple of years after we started collaborating, Hilmar became an unpaid scientist, a so-called *Privatdozent*[20] at the university of Bonn. He also was a honorary professor at the university of Münster, as he wrote me in his letter of October 8, 1998:

> *Also a job that is not a payed one, it is usually given to biggies in industry who know something about science, and want to have a "professor" added to their name.*

This statement vividly illustrates how he relativised academic positions and the nomenclature attached to them. But the fact that he did not have a salaried position, did not prevent him from being productive, in fact, it was just the opposite. On June 15, 1987, he wrote me (see Fig. 2):

> *Personally, I don't feel to be 'without job', having four contributions to books (on novae and photometry) to work on.*

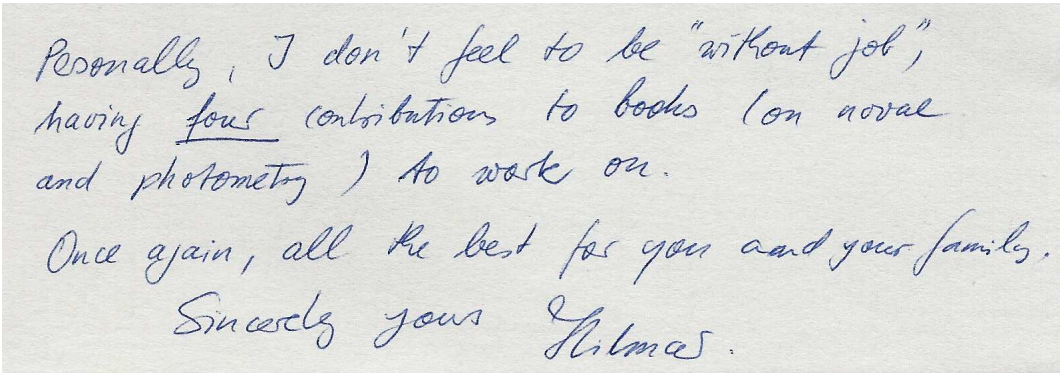
Personally, I don't feel to be "without job", having four contributions to books (on novae and photometry) to work on.
Once again, all the best for you and your family.
Sincerely yours Hilmar.

Figure 2: Letter of 15 June 1987.

Indeed, he had set up his own "institute" at his private home – including a dedicated fax line – and he paid all working costs (printing, copying, telephone, etc.) from royalties and speaking fees: in a sense, he was one of the last *gentleman scientists* in our profession, i.e., a self-funding, financially independent astronomer operating on his own terms, outside any grant system. Their house[21] – of magnificent and timeless design with plenty of light

[20] Private lecturer, a title conferred in German-speaking countries to someone who holds all formal qualifications (doctorate and habilitation) to become a tenured university professor. With respect to the level of academic achievement, the title compares to associate professor (`http://en.wikipedia.org/wiki/Privatdozent`).

[21] Hembrich 16, Schalkenmehren, Germany.

and space, featuring large windows with views on pine trees and lush *"Eifel wiesen"*[22] and adorned with Waltraut's white orchids – was conceived to stock more than 10,000 books, and more than 100 meter of archive space. His book shelves also contained several precious antique books, among which Gillis (1855, see also Duerbeck 2003a) that he bought for a few tens of Deutsche Marks (Goméz 2011). The house breathed an overall feeling of serenity, but also radiated an impression of wealth – although Hilmar's operational budget was quite modest.

Figure 3 shows the cumulative number of ADS entries for Hilmar Duerbeck. The leftmost dotted line segment is the linear fit covering his postdoctoral life as a paid associate (production rate ~ 8 entries year^{-1}), the rightmost dotted line is the linear fit for the remaining part of his career as a "gentleman scientist", with an average annual yield of 14 entries year^{-1}. Note that ADS entries include all types of publications, but a conservative count of the annual output of significant refereed papers over the period 1975–2007 reveals a strictly linear accrual with a slope of 3.6 y^{-1}, that is, until 2007, the year that Waltraut passed away. It is evident that Hilmar's dedicated nursing and care of Waltraut had taken its toll. Hilmar's total citation count (excluding self-citations) is over 1500.

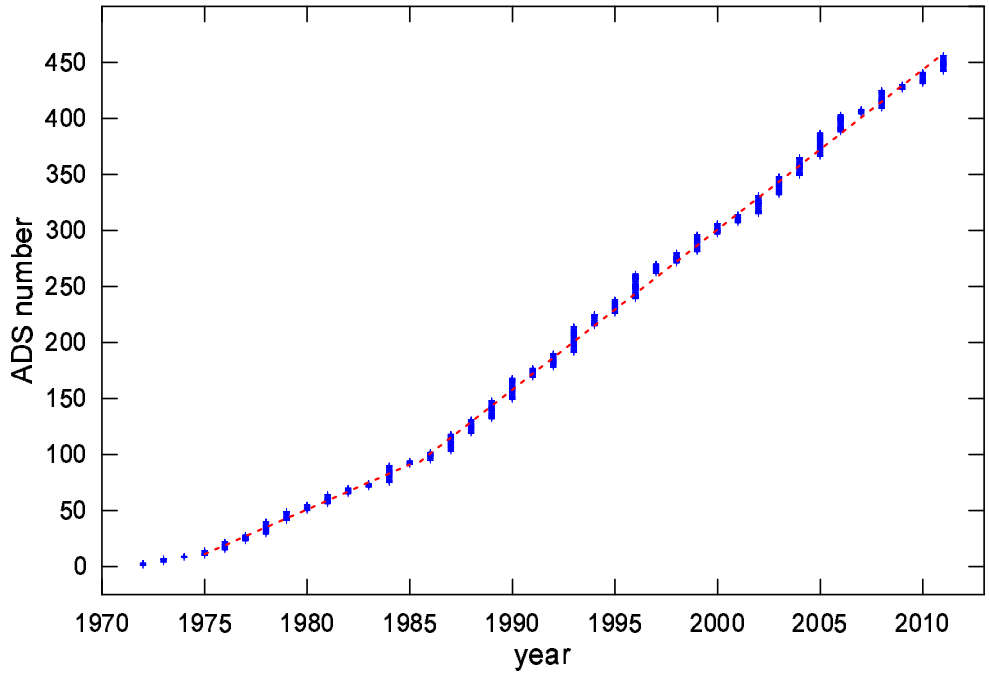

Figure 3: Cumulative number of ADS entries for Hilmar Duerbeck. The leftmost dashed line is the linear fit covering his postdoctoral life as a paid associate. The rightmost dashed line segment is the linear fit for his career as a "gentleman scientist".

[22] greens or meadows

5 From Münster to Brussels

On October 26, 1994, he wrote me an email that referred to the impending closure of the Münster astronomical institute:

> *I will definitively not remain in Muenster to see everything decay what we have put up in the last 10 years. If you know a nice place where I can work, please tell me.*

Unfortunately, I could only offer him a position as unpaid scientific associate at my university. His first appointment was in October 1998, in the framework of a bilateral research project with the *South African Astronomical Observatory* and the *University of Cape Town*. This arrangement allowed us to meet regularly, and the position gave him access to the electronic journals in our library. Consequently, he became a default "internal" jury member for all Ph.D. dissertations in observational astronomy at my university. In addition, we became each other's service provider for postage and mutual bank services in the Belgium–Germany–USA–Chile domain. But this singular position was not without administrative problems, for example all of his domestic travel was seen by the administration as voyages abroad, and his travels to Brussels were seen as Belgian domestic. Not to speak of the complications that arose because, being self-employed, he had entirely lost the habit of collecting proper receipts and bills.

His letter of October 26, 1994, was the very first instance in our verbal or written exchanges where I could spot traces of bitterness. In the subsequent decade I repeatedly caught sorrowful remarks concerning the closure of "her" institute at Münster, a development that deeply touched Waltraut's mood, and caused her a lot of mental unrest. I vividly remember a discussion with her about the fierceness of the academic skirmishes and fights, and when I expressed my naive disbelief and indignation about what the astropoliticians' had accomplished, she once bitterly said *"There are no saints*".

6 Miscellaneous research activities on history and heritage

Although the present paper is not intended to appraise nor to review Hilmar's scientific work and production, there are some aspects of his historical research activities that deserve to be recorded: his efforts to preserve heritage, and his special interest in reconstructing the work of the various players in the debates about the expanding universe.

6.1 Human and physical astronomical heritage

Hilmar was always very active in pursuing and researching relatives of late-19^{th} and early 20^{th}-century astronomers all over the world. This led to very vivid email and telephonic communication exchanges. One of his favorite topics was documenting the German Venus Transit expeditions of 1874 and 1882 (see, for example, Duerbeck 2003b, 2003c, 2003d), for which he did not restrict himself to researching archives in Germany (mostly Berlin and Leipzig), but he also actively guided people overseas to recover architectural remains of

these expeditions. Another field of interest was the history of astronomy in Chile (Duerbeck et al. 1999). All fragments of texts quoted below were sent to me by Hilmar over the past decade.

On 10 October 2004 he sent me a short message:

> *Things are going quite well here, I just had a phonecall from the granddaughter of astronomer Carl Wirtz (1876–1939).*[23]

On June 2, 2004 he wrote to Pouria Nazmei, a free-lance science journalist in Iran:

> *I looked at your photos and it could be that this is the bench or foundations of the largest instrument, the photoheliograph. According to the description in the German records, on the surface of the bench was the writing "Deutsche Venus-Expedition" (or German Venus expedition). Do you think that this inscription can be hidden below the sand and stones that cover the bench?*
>
> *If you find this inscription, or at least parts of it, it would really be a "Cultural Place", and I would also try to persuade the German Ministry that is in charge of Foreign Affairs to offer some money to keep this place in good shape as a historic scientific place.*
>
> *Concerning the expedition member Stolze, he stayed in Persia for a few years to do photography and photogrammetry of architecture: the Friday-Mosque in Shiraz and the buildings in Persepolis. I have a copy of a paper of a Berlin professor who wrote about Stolze's activities, also with a few pictures (I will make a copy for you). Stolze himself published a book "Persepolis. Die achaemenidischen und sasanidischen Denkmaeler und Inschriften von Persepolis, Isthakr, Pasargadae, Shapur", Berlin 1882, with 150 photos. It is a very rare large book which I have not yet seen – the Berlin library has a copy, and I will look at it when I am in Berlin next time. Stolze also wrote this popular article about Persia which I can send you.*
>
> *Please provide me with your mailing address, so I can send you the xerox copies.*

One week later he received the following reply[24]:

> *I have very good news for you. We found an inscription with exactly that sentence on it: "Deutsche Venus-Expedition". I shall receive the photos from Isfahan tonight or tomorrow, and I will send them to you as soon as possible. I talked to the Ministry of Science and Technology and asked them to write a letter to an organization for the Cultural Heritage of Iran for protecting the place, but I need some other evidence. Can we find the original report of this expedition from Berlin University? And another question: is there any governmental or non-governmental organization or university in Germany that is*

[23] Carl Wirtz is related to the discussion of the expanding universe, see Section 6.2.

[24] Reproduced after minor copy editing.

> *interested in this subject? If the answer is yes and if you can ask them to write a letter to the Iranian Cultural Heritage Organization and Iranian Ministry of Science and Technology, we may be able to protect this place very soon.*

And on 13 December 2005:

> *[. . .] just got a phonecall from a retired 61-year old flutist, Holger Ristenpart, son of the conductor Karl Ristenpart, and grand-son of poor Federico Ristenpart*[25] *of the Chilean National Observatory. Seems that he still has a few things from the past, especially some documents concerning these tragical events. He lives in Saarbruecken, so we agreed to meet after the holidays, in mid-January.*

On 29 Nov 2006, in response to my mail in which I said that I had browsed some microfilms of the Chilean newspaper *El Mercurio* in the Santiago *Biblioteca Nacional* for information about Ristenpart, he answered:

> *[. . .] a few days [ago] I got a phonecall from the French liaison officer for south west German university – Charles Scheel – who asked about Ristenpart's death and what happened to his family (he has written a biography on Karl Ristenpart, Federico R.'s son and conductor). I found some info in Berlin address books, and Gisela Muenzel found two letters from Ristenpart to Leipzig director Bruns, written a few weeks and days before his suicide.*

He was also very deeply involved in bringing to publication the autobiography of blind astronomer Hermann Kobold (1858–1942) who worked for the German Venus Transit Commission in Berlin (1883–1886), and who was one of the four expedition members of the 1882 Venus transit expedition to Aiken, South Carolina. Hilmar also used the heliometer of the Venus transit expeditions to measure the solar diameter over many years, see Vollmer et al. (2004).

6.2 A noteworthy piece of historical research

There is one remarkable patch of historical work that he, together with Waltraut, developed, and that may go further unnoticed if its history does not get recorded properly. In 1993 he presented a lecture to the *Astronomische Gesellschaft* on the expansion of the universe, viz., *In Hubble's shadow: early steps towards the velocity–distance relation of extragalactic nebulae*, in which he established that

1. Lemaître[26] had shown that redshift was the consequence of the expanding universe,
2. he derived the approximate linear relation, and, using it,
3. he was first to determine the numerical value of the "Hubble constant".

[25] Friedrich Wilhelm Ristenpart (1868–1913) was a German astronomer who emigrated to Chile and became the director of the National Observatory. He committed suicide in Santiago shortly after he was informed that his contract would not be renewed.

[26] Georges Lemaître (1894–1966), a Belgian priest and astronomer.

The abstract of this lecture was published without any graphical nor tabular material about the various early velocity–distance relations.

Eight years later, this paper was followed by a sequel paper with a slightly different title by Duerbeck & Seitter (2001): *In Hubble's shadow: early research on the expansion of the universe*. This work offered a deep overview and discussion of the the progress of theoretical and observational cosmology in the first half of the 20$^{\text{th}}$ century. The authors outlined the Einstein, the de Sitter and the Friedmann–Lemaître models, and described the quest for the observational confirmation of the de Sitter universe, as well as the first theoretical and observational work on the Friedmann-Lemaître universe. They analysed the attempts to determine the expansion parameter, and traced early research on the deceleration parameter. This was a remarkable piece of work, see, for example Glass (2005):

> *Most of the last part is a fascinating account of the cosmological development of General Relativity by Einstein, de Sitter, Lanczos, Lemaître, Friedmann and Robertson, and how they influenced and were influenced by the observers. Nowadays one tends to think of Edwin Hubble in connection with the expansion of the Universe, but he was only one of several to whom the credit for this work is due. The article on this subject by H. Duerbeck and W. Seitter attemps to give an unbiassed history of early developments.*

This paper surely was a ground-breaking piece of historical research that was followed by several spin-off discussions and references about who deserves credit, see Livio (2011) and Trimble (2012).

7 Culturally robust and rich in wit

Hilmar possessed a very rich and very broad culture, especially concerning classical music in concerts and in opera performances. He sent me numerous messages like the following:

> *I am back from Berlin. Today I found an e-mail by Dimitris Sinachopoulos who saw from his seat in the Berlin Lindenoper*[27] *that we sat in the first row, all of us watching La Calisto, a baroque opera conducted by Rene Jacobs (a production of the Théâtre de la Monnaie in Brussels. . .).*

or

> *Yesterday we were in the Trier amphitheater, where they gave an open air performance of Wagner's Rienzi. The weather was superb, and the huge area was perfectly put into use with torchbearers etc. A lot of Belgian and French cultural tourists were also there.*

and

[27] Deutsche Staatsoper, Berlin State Opera.

> *We fondly remember the dramatic Lucia di Lammermoor in the Baltimore Opera. But of course the Met*[28] *and the Linden-Oper are somewhat fancier. Actually, when I edited some of the nova light curves, I heard, Saturday, as a radio broadcast, the first performance (Urauffuehrung!)*[29] *of Siegfried Wagner's opera Rainulf und Adelasia, and liked it very much [. . .]*[30]

He once sent me a copy of the proceedings of a Symposium on the era and work of Franz Xaver von Zach (1754–1832) that was published in the small-format book series of Verlag Harri Deutsch (Balázs et al. 2004) with the words

> *Voila, voila klein Zach conference, to paraphrase Offenbach.*[31]

He also had a good command of the French language, and he very often asked particular questions, such as, for example, in March 2004:

> *May I ask your opinion about [a] somewhat peculiar title 'observé depuis le Chili'? I know there are differences between Flemish and Dutch, and there are certainly also differences between French and the language spoken 'south of the border' – I don't know whether the use of depuis also for locations is simply colloquial [. . .]? I am sorry to ask, knowing that you certainly are no specialist in such matters [...]* [signed] *"Zum Raum wird dann die Zeit" (no, not Einstein – R. Wagner, Parsifal).*[32]

Frankly, I was no match for this storehouse of history and culture.

8 Science in national context: take joy!

We took pleasure in light-footed – though sometimes also serious – discussions about science in national context, especially since we edited several papers where authors would put somewhat exaggerated emphasis on the deeds and exploits of their countrymen – sometimes at dates when their nation did not even officially exist as such. Scholarly works have looked at question of national context in more depth (for example *The Scientific Revolution in National Context*, Porter & Teich 1992), but we enjoyed contemplating and exchanging German and Belgian positions. More particularly, the literature on the transits of Venus offered ample opportunities for such digressions.

One example is from Zegers (1883), who concluded his work with an extensive and flattering eulogy to Belgium and the Belgian scientists. Hilmar wanted to include it in our paper (Sterken et al. 2004) on the 1882 Belgian Transit of Venus Expedition to Chile, but I had strong objections:

[28] The Metropolitan Opera, New York.

[29] Première: first public performance on stage.

[30] Email to Robert [Bob] Williams, October 2003.

[31] *Voilà Voilà Kleinzach* is General Boum's song from Jacques Offenbach's 1867 operetta *La Grande Duchesse de Gerolstein*.

[32] *You see, my son, here time becomes space*, Gurnemanz: *Du sieh'st, mein Sohn, zum Raum wird hier die Zeit.* Translation from `http://www.monsalvat.no/trans1.htm`

> *I made a Dutch translation that I use for finishing my lecture, and it is always met with some scepticism & reserve, and I am not sure I would dare to use it abroad [. . .] I would only use it as the motto if we go for a really deeper paper or book, going into fine detail when describing the instruments etc., even the data. It may really be misplaced [. . .]* [33]
>
> *I am through the paper and flagged a number of typos which I am to correct today. The only strong objection I have is, as I said already before, the explicit citation of Zegers' words in extenso, especially as the statement is in a leading position and will perhaps be the only thing that some people will read (besides the abstract). If I were not Belgian, I would not mind, but starting this paper with such a statement from a man of Belgian origin may lead some people [. . .] to read this out of context. Also, the "evolutionary state" is not quite the same as "desarrollo intelectual" (Zegers hinted at intellectual development). I would propose, if you agree of course, to remove this statement and to include only part of it in the first paragraph of the paper.*

This was immediately answered by a most typical reaction "à la Hilmar":

> *That's fine. I am back to the article, and am also preparing an English translation of Zegers' statements about Cesar's Belgae. Maybe one can make this the "motto" of the article. . . . I am perfectly aware that this introduction with its flattering words on the Belgians may easily be misunderstood by some people; I thought it would make a nice introduction, however. It is too clearly too lengthy, so one may try to restrict it to 1–2 sentences. Of course, cutting citations is dangerous, I remember that [. . .] told me about the first lines of "De Bello Gallico", where it is said that the Belgians are the bravest people (because they are also the dumbest ones, Cesar continues, but this is usually omitted) – but please excuse, I might remember incorrectly, it was in the evening at a bar with Belgian beer!*[34]

This is, by the way, a fine example of "lost in translation", as the rendering of the same Latin text – a language in which Hilmar was well versed – in French yields slight but not unimportant difference in interpretation.[35]

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[33] 8 April 2004.

[34] This refers to *"All Gaul is divided into three parts, one of which the Belgae inhabit, the Aquitani another, those who in their own language are called Celts, in our Gauls, the third. All these differ from each other in language, customs and laws. The river Garonne separates the Gauls from the Aquitani; the Marne and the Seine separate them from the Belgae. Of all these, the Belgae are the bravest, because they are furthest from the civilization and refinement of [our] Province, and merchants least frequently resort to them, . . . "*, Gaius Julius Caesar, *De Bello Gallico*, McDevitte & Bohn (1869).

[35] *L'ensemble de la Gaule est divisé en trois parties: l'une est habitée par les Belges, l'autre par les Aquitains, la troisième par le peuple qui, dans sa langue, se nomme Celte, et, dans la nôtre, Gaulois. Tous ces peuples diffèrent entre eux par le langage, les coutumes, les lois. Les Gaulois sont séparés des Aquitains par la Garonne, des Belges par la Marne et la Seine. Les plus braves de ces trois peuples sont les Belges, parce qu'ils sont les plus éloignés de la Province romaine et des raffinements de sa civilisation, parce que les marchands y vont*

9 Joining The Journal of Astronomical Data (JAD)

This small data journal was founded in 1995 by myself and Mr. Gert Kiers, a modest-scale Publisher in the Netherlands. The first Associate Editor was Dr. Mart de Groot from Armagh Observatory. When Mart retired, I looked for a suitable colleague to replace him, and on December 17, 2000 I sent Hilmar the following email:

> *[. . .] running JAD alone is not healthy, so I need someone with a very broad knowledge of our trade, at the same time not driven by mercantile instincts, hence [. . .] Sometimes I thought of having a real extended Board with people representing different fields, it is not difficult to find names to join the Board, but it must mean something, let's discuss this when we have an occasion.*

Hilmar effectively became Associate Editor from 2001 onwards, until his untimely death early this year. Our working procedure always was to each suggest one or more suitable referees. We always discussed the reports together, and made amendments when necessary. Finally, the proofreading of the revised manuscript was always done by both of us, and many an author has profited from Hilmar's outstanding capacities as proofreader and Editor. His editorial behaviour can be described as friendly and helpful, but he had a terrific eye for unearthing mistakes – scientific and editorial.

10 Friend of books, and books for friends

Hilmar was a "book man", an avid collector and a devouring reader: he just loved books – and, thus, also anyone else who loves books. Above all, the librarians: multiple times he told me *"if you happen to see Maria Eugenia*[36]*, give her my best regards"*. And the same request towards to Ramón Huidobro[37] or to Brenda Corbin[38].

Whenever he published or edited a book, he would give me a copy. And most of the times, I did not even know that the book had been published until I was given a copy. That was, for example, the case with an autographed copy of the beautiful *Hubble revisited* pictorial book (Fischer & Duerbeck 1998).

He not only gave away books that he edited himself: I have received many a duplicate of a book that he had reviewed,[39] but he would also surprise me, from time to time, with a small book or a catalogue. For example, he arranged to have me sent a copy of *Die Universitäts-Sternwarte München im Wandel ihrer Geschichte*[40] by Reinhold Haefner. When he donated

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très rarement, et, par conséquent, n'y introduisent pas ce qui est propre à amollir les coeurs, enfin parce qu'ils sont les plus voisins des Germains qui habitent sur l'autre rive du Rhin, et avec qui ils sont continuellement en guerre. Gaius Julius Caesar, *De Bello Gallico*, Constans (1926).

[36] Maria Eugenia Gómez, ESO librarian in Santiago.

[37] Astronomy Secretary at ESO La Silla.

[38] U.S. Naval Observatory librarian.

[39] Hilmar was a proficient reviewer: he published more than 50 book reviews over the last 10 years.

[40] The Munich University Observatory through the course of its history.

me *Wie Bayern vermessen wurde*,[41] I only then realised how well he understood my interests in geographical and geodetical measurement.

He was not dropping his books everywhere, as I tend to, but had them neatly ordered – though not catalogued – with his list of titles, authors and location simply in his head. Very often, when I could not find a historical source, he would go to his double-lined wall library[42], and blindly take out a work. For example, when I was writing about Radó Kövesligethy, a Hungarian early spectroscopist (1862–1934), he dug up a tiny booklet *Porträtgallerie der Astronomischen Gesellschaft*[43] from which I could retrieve Kövesligethy's photograph. He was also my only source of access to the *Landolt-Börnstein* Series (Aller et al. 1996, Voigt et al. 1996), to which he (and Waltraut) had contributed. His help with sources went much beyond consulting works in his library, as the following quote indicates (in response to my question of 16 June 1999 concerning historical magnitudes of η Carinae):

> *I looked into my old Bayer (1603) with eta Argus = 2 (I think), and I also looked into Schiller (1627), but he does not use the Bayer letters, so I have to read his latin text. Anyway, I will.*

His bibliophile way of life brings me to a most characteristic anecdote: several years ago he wished to replace his car (which had driven over 300 000 km), and he was offered the choice between two rather young second-hand cars, one was a classic 4-door vehicle, the other was a 2-door convertible – "a dream car" he wrote – so he asked my advice. I said that a convertible would be a splendid way for touring the Eifel mountains with Waltraut, but I asked whether it was a soft-top or a hard-top model. Hearing that it was a fabric-topped cabrio, I told him that it would not survive the harsh Eifel winter climate, unless he would park it inside his garage. He then refrained from buying the convertible, because his garage was simply reserved for his archives and his books. Nevertheless, he saw the purchase as a kind of "birthday present" for Waltraut's 75th birthday on January 13, 2005.

11 The last years at the side of Waltraut Seitter

I do not remember when exactly we noticed the first signs of the decline of Waltraut's health, it seemed to me that even Hilmar did not realise it right away. But what was more than obvious was the way he cared for her, and the monumental courage that he had to accomplish the daily nursing of Waltraut. He never complained, but from time to time he apologetically asked for a listening ear: *"I also apologize for "keeping you informed", but (a) you should roughly know what I am doing and (b) it helps to tell at least one person"*. That he was very lonely, and had almost nobody to talk to face to face, was also obvious from a response by the late Donald E. Osterbrock, who on 16 December 2005 encouraged him in a most humane way:

[41] How Bavaria was measured (Bavaria was the first region of Europe that was exactly measured, Seeberger & Holl 2001).

[42] He called it the *Bibliothèque royale de Schalkenmehren,* paraphrasing the *Bibliothèque royale de Belgique*.

[43] *Portrait Gallery of the Astronomische Gesellschaft*, Hasse (1904).

> *I am always glad to hear from you, don't feel sorry about writing too often or too seldom; whatever you do is fine with me. I am sorry indeed for Waltraut, and I think you are a Saint for caring for her so conscientiously.*

During that period he also developed a quite intense telephonic communication network with, among others, Siegfried Lührs and Hans Emil Schuster. He was quite diplomatic to others in referring to the situation at home, which he described in terms of *"health problems in the family"*.[44]

12 Hilmar's character traits

His character can be entirely described by the following series of adjectives: cheerful and humorous, gentle, kind, careful, encouraging, loving, peaceful, and easygoing. But also rational, thorough and stubborn: his thoroughness was one of his best editorial qualities. Hilmar had an *eagle eye*: his ability to observe keenly – see the picture in Fig. 4, especially when proofreading, was one of his professional assets. This quality was of course quite useful when producing joint papers, but we also used to exchange many other texts for mutual proofreading, and that is why I allude to him as one of my "sparring partners" in Sterken (2011).

Hilmar had a very unique characteristic facial expression: his physiognomy mainly displayed by two emotions: joy and surprise. From his visage I could seldomly detect sadness, and never read contempt, anger or disgust. I have never seen one single photograph of him from which I could not infer the enduring joyful and witty temperament of this person. In daily life, his joy was predominantly expressed by loud laughter.

Our way of communication was somewhat special. Before 1986 – the onset of communication by email – all contacts were forcibly by letter, but he also very much liked to use postcards for short messages. For example, on July 4, 1984 he sent a postcard from Calar Alto Observatory, together with the annotated manuscript of our very first joint paper (Sterken et al. 1985). The card also mentioned that the Münster house would be available for accommodating me three weeks later. From the moment that we shared editorship of the journal (2001), most communication of course was by email and phone, mainly dealing with to and from reports about observing, writing and proofreading our own papers, and papers of others in our journal and in proceedings books that we edited together. But he continued his very nice custom of sending postcards whenever there was an occasion for doing so. One of the last ones was from a cruise voyage along the Norwegian coast: a postcard of *Vardøhus Festning* postmarked April 3, 2010 from aboard *MS Kong Harald* of the Hurtigruten Line:

> *[...] yesterday we reached Kirkenes where the ship turned back south-west, passing Vardø where M. Hell was in 1768 or 9. Today we visited in Hammerfest the column marking the northernmost point of Struve's meridian arc. The*

[44] "... health problems in the family prevent me to make definitive plans at the moment", letter of 16 October 2005 to Nikolaus Vogt.

Figure 4: Hilmar Duerbeck on a botanic stroll in an Eifel forest (March 2001).

> *weather is quite nice, but no observation of semi-forbidden oxygen lines yet [. . .]*

A picture of Hilmar, taken on April 3, 2010, in front of the Hammerfest column appeared on the website of SciLogs[45], a scientific blog website. The above reference to the Aurora Borealis was one of his typical expressions in joke format about something obvious, like, for example his retoric question in answer to an email that I sent him one day, at 4 am:

> *Dear Chris, are you sleepless, or is your PC smart enough to send personalized letters of acknowledgement?*

His continuous encouragement was a true gift to anyone in his surroundings. For example, in response to my bitter complaint that a Publisher had made a totally disgusting book cover[46] – worse even, the layout people had botched most of the graphics that we had so carefully prepared – he wrote on May 8, 1993

[45] `www.scilogs.de/kosmo/blog/uhura-uraniae/news/2012-01-06/hilmar-duerbeck-verstorben`

[46] For Sterken & Manfroid (1992).

> *Gert Kiers just sent me a copy of Astronomical Photometry [. . .] I want to send my congratulations to the authors [. . .] You should not have told me about the figures, only now I start looking at all the frames and angles [. . .] Cheer up, if you dont tell people where to look, (almost) no one will find out [. . .]*

In addition, he was most encouraging to students – his own students as well as others' – and he was at any time ready with good advice, always topped with a big smile. Lars Freyhammer, after hearing that Hilmar had passed away, wrote to me

> *I remember how he always was helpful and kind to us students, and even brought us gifts during his visits.*

But a lot of his tending was quite invisible, for example he was one of the few senior supervisors who actively went observing for his (and my) PhD students.

His scientific competence is obvious from his presence in the aforementioned S_1 domain as defined by McMullin (1970). His editorial abilities resort in the practical realm of proofreading, copy editing and refereeing, as well as for what concerns the ethics of the job of editing. In response to the question of the duties and rights of an Editorial Board, he once addressed the IBVS Board in the following terms:

> *When I once talked with a member of the editorial board of a big journal, I had the impression that there were no duties, and the only right was to receive a free copy of the journal. Supervising, editing and publishing a big journal is a job that is done very efficiently in some places and less efficiently in others (each of you can insert appropriate names and places according to his/her liking), [. . .]*[47]

He had a very honest attitude with respect to coauthorship – for example, he was very reluctant to become coauthor of Vollmer et al. (2004), despite his deep involvement during the composition of that paper and of the editing of Kobold (2004), see page 10. He knew that he was constantly activated in helping others, and he explained his rewards in the following terms:[48]

> *It certainly will appear to you, especially when you also get the Kobold papers, that I did an awful lot of work (almost) without indicating this in the list of authors. That is certainly true, but actually I have so many publications on my list that it really does not matter if there is another one (it matters a little with paper publications since I can claim some copy charge fees from a German authority,*[49] *but not for CD publications!). And if someone is willing to read the "fine print", he will recognize my contribution. But honestly, to see such publications in print/on CD is reward enough for me – and of course I feel that it's the editor's duty.*

[47] 3 September 1997.

[48] 7 December 2004.

[49] This refers to the organisation that pays some kind of per page copy-royalties to authors: *Verwertungsgesellschaft WORT*, `http://www.vgwort.de/startseite.html`.

In the same style, he wrote to Bob Williams (with respect to Williams et al. 2003):

> *Chris Sterken informed me that you [. . .] were also kind enough to suggest that I should become a co-author. Let's see what I can do to assist in the publication, and then you decide whether my name should be added to or erased from the list of authors.*

13 An angry author and an upset mentor

This Section focuses on two particular incidents that upset Hilmar quite a lot. The first concerns Nova Cyg 1975, on which he submitted – together with Bernhard Wolf (1935–2012) – a paper to a refereed journal. It took more than six months to get the paper accepted, thanks to a very slow and anonymous refereeing round. But Hilmar later discovered that a competing paper had been submitted to another journal, about two months before the acceptance date of their own work. Finding out the name of an undercover referee can be notoriously difficult, except in this specific case because the unsigned referee report had been typed[50] on paper that carried the watermark of the referee's institute. Hilmar could only conclude that they had been the victim of conflict of interest.

In 2002 he had put a major effort in preparing for publication *The Münster Red Sky Survey: Large Scale Structures in the Universe* (Ungruhe et al. 2003), an edited and translated version of Renko Ungruhe's Ph.D. thesis that had been submitted and examined at Münster University in 1998, under Waltraut's supervision. The most important point to mention here is that Hilmar – although he had very actively participated in the preparation of this paper – was very uneager to sign it as coauthor, and he very reluctantly submitted to my pressure to co-sign that paper (see also Section 12).

But while preparing that specific manuscript to be published in JAD, he came across what he called[51] "a disgusting thing": a paper by the second referee of the Ph.D. thesis, meanwhile published in *Monthly Notices of the Royal Astronomical Society*, was to a very large part based on the results of that very thesis, moreover it had been published without the knowledge nor the permission of the author of the Ph.D. thesis. He consequently informed the referee of the submitted manuscript, who verified the situation by comparing the content of the Ph.D. thesis and the MNRAS paper, and came to the prompt conclusion that Ungruhe should have been coauthor of that derivative work, and thus that this single-authored paper simply is a plagiat.[52] We thus have the very aberrant situation that a referee of a thesis becomes sole author of a work that is derived from the unpublished thesis manuscript, while at the same time the scientific mentor[53] remains very hesitant to appear as a coauthor. The

[50] In those days not one single component of the publishing process came in electronic mail exchange: everything was typed on paper.

[51] Email of 17 April 2003.

[52] Referee to Hilmar Duerbeck, 27 May 2003.

[53] As Waltraut, the supervisor, was unable to coach the manuscript into publication, Hilmar took over that duty. Note that the nomenclature on supervisors is not very well defined: the term mostly refers to PhD thesis promotors, but also includes senior postdoctoral staff, and *tutors* or *mentors*. The term *mentor* comes from Greek mythology: when Odysseus left for the Trojan War, he asked his friend Mentor to provide parent-like

functions of supervisor and mentor are, ideally, combined in one person, and mentoring should also incorporate the transmission of ethical standards from senior to junior scientist. This is exactly what Hilmar did.

Meanwhile we continued to work on the copy editing of the manuscript and on the reformatting of the data, but I told Hilmar[54] that I had some bad feelings about all this, and that I saw the sharing of coauthorship also *"as a bonus to Ungruhe, Seitter & Duerbeck, and as a malus for [the plagiarist]"*. The following citation[55] vividly illustrates in all details how conscientiously he approached the issue, and how carefully he worded his proposed solution.

> *Ich [. . .] hatte mich immer auf den Standpunkt gestellt, dass ich ja nur der Uebersetzer war. [. . .] Andererseits finde ich, dass, wenn es schon einen Ko-Autor gibt, meine Frau es auch verdient haette, als Ko-Autor zu erscheinen, denn sie hat ja immerhin die Maschinen an Land gezogen und sich sehr um die Arbeiten, und vor allem auch um die schriftlichen Ausarbeitungen gekuemmert, wenngleich das fuer die betreffenden Diplomanden und Doktoranden bisweilen wohl etwas nervenbelastend war. Nun geht es meiner Frau leider nicht mehr sonderlich gut, und ich will sie auch gar nicht mit dieser Sache belasten, aber es waere doch sehr schoen, wenn auch ihr Name ueber der Arbeit stehen wuerde.*
>
> *Und so waere mein Vorschlag in diesem Falle: The Muenster Red Sky Survey by R. Ungruhe, with the collaboration of W. Seitter and H. Duerbeck – damit man klar sehen kann, wer das Projekt durchgefuehrt hat.*[56]

Hilmar effectively carried this out:

> *I already typeset his paper with the author lines: Ungruhe, with the collaboration of WS + HD, looks quite all right.*

At about the same moment, Ungruhe (who had just returned from a long travel abroad) suggested himself to make both "supervisors" full coauthor, and that settled the issue and Hilmar accepted.

14 An early health warning

It was in July 2000, exactly while in Chile for the LTPV project, that a dangerous health condition revealed itself to both Hilmar and Waltraut. During a two-week break in between

supervision of his son, Telemachus.

[54] On 21 December 2003.

[55] From Hilmar Duerbeck to Renko Ungruhe, 29 December 2003.

[56] *"I have always considered that I only was the translator. [. . .] On the other side, I find that, if there is already one coauthor, my spouse also deserves to appear as coauthor, because she acquired the machines, and also involved herself a lot with the work, in particular the writing of the manuscripts – even though this was somehow nerve-racking for the involved MSc and PhD students. At this moment, unfortunately, my spouse is not particularly well, and I shall not burden her with these matters, but it would be very nice if also her name would appear on this work. // And so is my proposed solution for this case: The Muenster Red Sky Survey by R. Ungruhe, with the collaboration of W. Seitter and H. Duerbeck – as such one can clearly see who has carried out the project."*

June and July observing runs, he made plans to drive to Concepción (on Thursday July 6, to see Wolfgang Gieren and Ronald Mennickent), and return via Viña de Mar to visit William Liller on Sunday July 9, the day before his planned return to La Silla. But Hilmar suddenly felt unwell while driving on the Panamericana highway near Santiago de Chile. Fortunately, road workers could quickly organise an ambulance to take him to the *Clínica Alemana* in Santiago, where his dangerously high blood pressure was brought under control.

Then, over the weekend, an unbelievable worldwide synergy spontaneously developed: Rosemarie Reinecke-Herberg, the "lady of the guesthouse"[57] contacted I do not know whom, who redirected her until finally someone (from Münster) was contacted who knew someone else who had my telephone number, so to my astonishment I received on Saturday morning July 8, at my home, a phone call from Rosemarie. Not only could I give proper instructions related to Hilmar's travel insurance, but I also got his telephone number at the hospital. The same afternoon I called him, and to my great surprise there was Hilmar's most familiar strong and laughing voice saying *"don't you worry, Chris, at this moment I am being washed by a lovely Chilean nurse"*. And he insisted to go back to La Silla to take care of his second observing run, but after a long discussion I could persuade him not to do so. I then contacted Emanuela Pompei, the ESO staff astronomer responsible for visitors at the Danish 1.5-m telescope, and she kindly offered to organise this observing run in service mode. This arrangement was strongly supported by Danielle Alloin, then the Scientific Director at ESO-Chile. On Sunday, 16 July 2000, from the guesthouse in Santiago, Hilmar directed an email to Brian Marsden in which he submitted spectroscopic information on Nova LMC 2000 for publication in the IAU Circulars (Duerbeck & Pompei 2000). The same day, he wrote to me:

> *I do not want to go to La Silla against the verdict of the ESO doctor – if something would happen, this would be an embarrassing situation.*

Several weeks later, Hilmar was back home, and worked on the data, which led to a paper coauthored by the ESO staff members (Arentoft et al. 2001).

From that moment on, he was under medical surveyance and apparently without a visible serious health condition. Alas, a second such event on the 5th of January 2012 was fatal.

15 The last encounter, the last lesson, the last book

It so happened that I had made plans to organise a training workshop on scientific communication, to take place in the spring of 2012. But since I had no more paid associates in my research team, my wife very much worried about what would happen if something would go wrong with me, in particular with my health. So I invited Hilmar to spend a day at the conference hotel in Blankenberge (Belgium) where I had organised the *Scientific Writing for Young Astronomers* (SWYA[58]) classes in 2008 and 2009. Hilmar agreed to take over the

[57] The ESO *Casa de Huespedes*, in Alonso de Córdova, Vitacura, Santiago de Chile.

[58] `http://www.swya.org/`

Figure 5: Hilmar Duerbeck (second from right) among the participants of the 1991 *Digitised optical sky surveys* conference in Edinburgh. Waltraut is near the center of the picture. Source: MacGillivray & Thomson (1992). Note: I have been unable to trace or contact the copyright holder. If notified, the publisher will be pleased to rectify any errors or omissions at the earliest opportunity.

organisation of the meeting *"in the unlikely event"* that something should go wrong with me.

Hilmar, though, had a strong sense of realism or good sense, and pragmatical as he was, he kindly pointed out how I ever could even think of organising a meeting considering the fact that I would not get any administrative support from my university. I could only agree that he was right, so I decided to abandon the idea and not to pursue the project. The "unlikely event", alas, occurred on January 5, 2012.

But the ultimate lesson that he taught me was related to my own lack of professional insight at that very moment: in those days I was fussing over my employer, who was trying to expel me on the grounds that I was to turn 65 a couple of weeks later. At the breakfast table of Hotel Aazaert, Hilmar smiled and chuckled, and said

> *But Chris, whatever you do now, you just can go on doing without any support whatsoever from your university.*

In other words: he suggested that it is time that I begin to operate in exactly the same mode in which he had worked himself since more than 25 years.

Hilmar had accepted to give a public lecture entitled *Zeitbestimmung und Zeitdefinition vom Altertum bis Heute*[59] at Bad Honnef (Germany) on 18–20 January 2012.[60] For preparing that lecture, he had ordered, on December 27, the book *God's Clockmaker: Richard of Wallingford and the Invention of Time* (North 2005), and he received the book just a couple of hours before he died. According to Münzel (2012), upon opening the parcel he mentioned my name, saying that *"Herrn Sterken"* definitely would treasure this book. I affirm that I very much cherish this relic that Gisela (more on whom below) kindly sent to me.

16 Unfinished work

There is no doubt that Hilmar left behind a huge amount of unfinished projects, as I infer from the frequent occurence of very typical apologetic phrases in which he refers to delays.

[59] *Definition and Determination of Time from Antiquity to the Present.*
[60] This talk was delivered by Wilhelm Seggewiß.

To name only two projects in which I was involved: the photometric calibration of a large batch of Comet Halley photographic images (glass plates and films, see Liu et al. 1999), and his nova work – "works projected by him", to use the words of Leibnitz as cited on page 2.

Hilmar was very versed in the use of all photometric detectors: the eye, the photographic emulsion, the photomultiplier, and the CCD, and he very well knew the pitfalls of each technique:

> *I am always thinking of making some systematic photometric observations of stars or star fields which are covered by the Halley plates. Indeed, I might have some time to take CCDs with the Danish 1.5 in Jan. [1989] to get good B-magnitudes of star fields.*[61]

Such a statement was very typical and characteristic. One year later, on 28 November 1989, I wrote to Liu Zongli

> *I agree with you that we should use faint standard stars, and discuss these topics with some experts. On Sunday,*[62] *on my way home, I stopped at Dr. Duerbeck's house in Schalkenmehren, and I discussed many aspects of our work. He will take care of selecting the standards stars from your plates, and we shall then discuss the matter again.*

On 9 December 1991 Hilmar wrote:

> *Concerning Halley, I cannot work on it now, since there are several nova papers that should have been submitted already a few months ago, which need all my attention.*

Such were the kind of dynamic interactions that occurred all the time.

In March 2006 Hilmar mentioned his nova survey data:

> *By the way, I still have a large nova magnitude & color survey which suffers from bad absolute calibration. – If I could manage to make a better calibration, this unique (useful, to avoid the word important) study could be published. I suppose that with the SLOAN photometric data base a calibration would be possible, but I don't have the nerves to look into using it. Maybe your student could assist me in this, and we could complete and publish this study after all [. . .]*

He then prepared the entire nova database, that also includes many spectrographic images, and during summer 2006 handed the DVD to a young postdoc in Brussels. Five years later, the data lay still untouched, waiting for another eager mind interested in novae and in calibration. Incidentally, one week before he passed away I told him that I was organising a new hard disk, and cleaning up archives, and I asked him if he had plans to work on these data soon, and his answer was

[61] 8 November 1988.
[62] 26 November 1989.

> *I am pretty sure that I have these data here on CDs/DVDs or DATs. If I ever will work on them again, I think I can retrieve them. So go ahead with deleting them.*[63]

But a great lot more data are stored on his digital media (hard disk and DVD collection): observational data, literature, historical archives and surely a lot more.

17 Heritage and "Nachlass"

Gisela Münzel, his new partner in life, and Hilmar concluded years of fruitful collaboration and a common interest in historical work and archiving with a closer relationship that made him spend one week per month in Leipzig where he passed most mornings in the *Deutsche Nationalbibliothek*.[64] Our last email exchange was on January 3, 2012, with his advice about the selection of a referee for a data paper on variable stars. On January 4 they left her Leipzig home for a 500-km drive to Schalkenmehren (Münzel 2012). The next day Hilmar went to see his doctor, and he was diagnosed with extremely high blood pressure, and was prescribed immediate hospitalization, and an ambulance would pick him up at home. Alas, he collapsed before help even arrived. Hilmar's ashes remain since 27 January 2012 at the cemetary of Neuweiler near Sulzbach/Saar (Germany).

His untimely death confronted his immediate astronomical entourage with a totally unexpected problem: he left no direct heirs, and there was no trace of a will. This surprised me greatly, because he once talked about establishing a kind of "Waltraut Seitter Stiftung"[65] and he asked my advice on what kind of leitmotif would be the most suitable. As Waltraut Seitter had been the first female to obtain a Habilitation in astronomy in Germany, I suggested him to establish a grant system for supporting young females to pursue higher studies in astronomy. But we never discussed this again, probably both assuming that there was still a lot of time to work this out. His entire estate thus passed to a distant relative who is too remote from our trade to properly oversee the great wealth of astronomical information that is stored in his more-than-100-meter-long archives, in addition to over ten thousand books related to astronomy.

But haven't we seen such deplorable situation before? Indeed, Franciscus de Paula Triesnecker, Maximilian Hell's successor at the Vienna University Observatory, wrote to Joseph-Jérôme Lalande that he had "been unable to even look at the manuscripts", for

> *the inheritors have denied him this satisfaction: this is another reason to regret the loss of Father Hell. Perhaps Curiosity, which publishes what Jealousy has been able to hide away, will one day supply us with the publication of these manuscripts.*[66]

[63] Email of 26 December 2011, sent from Leipzig, and accompanied with wishes for "a peaceful Christmas".

[64] i.e., the German National Library (personal communication of 31 August 2009).

[65] Waltraut Seitter Foundation

[66] Lalande (1803), p. 722: "M. Triesnecker, habile astronome de Vienne, m'écrit qu'il n'a pu parvenir à voir même les manuscrits; les héritiers lui ont refusé cette satisfaction: c'est un nouveau motif de regrets sur la perte

Jealousy, definitely, does not play here, and, most fortunately, part of Hilmar's work had already been dispersed to some colleagues around the globe in a small number of modest digital files which, like driftwood, certainly will surface during the coming years.

18 Summary view

Hilmar was a remarkable and many-sided natural scientist of exceptional erudition. Besides his professional dedication, and his legendary encyclopedic knowledge, Hilmar will be best remembered as a quiet and caring personality and as a very helpful and friendly person, who was always kind and generous to his colleagues. Those of us who have had the privilege of knowing Hilmar more than superficially have been very fortunate. Yes, we lost a superb colleague, a good friend, a brother. As Brenda Corbin expressed so well:

> *What a huge loss to the history of astronomy community.*

As mentioned already, Hilmar was equipped with an "eagle eye". At the same time he had, in all respects, the character of an easygoing dove. The eagle–dove allegory in the title of this paper is taken from Johann Wolfgang von Goethe's poem *"Adler und Taube"*.[67]

The reader may wonder how one could possibly conceive a model of a human that combines the high-flying capabilities and erudition of an eagle with the compassionate and peaceful character traits of the dove. Hilmar's entire life was the proof that – as so well expressed by Don Osterbrock – the conception of an eagle that is equipped with the software of a dove makes sense,[68] and that such creatures indeed do exist in our world: we call them **angels**.

Figures 5–7 show some good memories of happy moments, and Fig. 8 illustrates Goethe's poetry referring to this *"wanton pair of doves"*.[69]

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du P. Hell. Peut-être que l'intérêt, qui publie ce que la jalousie aurait pu recéler, nous procurera la publication de ces manuscrits." Translation taken from Aspaas (2012) p. 41.

[67] *Eagle and Dove*, 1772.

[68] This is not even a far-fetched analogy: human behaviourists grossly classify individuals along four profiles that are labeled with names of birds: Dove, Owl, Peacock and Eagle. The dove's principal character traits are friendliness and hard-working.

[69] After line 23 in *Adler und Taube*, `http://gutenberg.spiegel.de/buch/3670/42`

Figure 6: Hilmar Duerbeck and Belgian astronomer Henri Debehogne (1928–2007) at a workshop in Brussels (July 2002). Seated at the table in the background: John Percy and Pavel Koubsky.

Figure 7: *Left*: Luis Barrera, Hilmar Duerbeck and Ronald Mennickent at a workshop in Brussels (July 2004). *Right*: Hilmar Duerbeck and Lars Freyhammer at a workshop in Brussels (July 2002).

Adler und Taube

[. . .]
Da kömmt mutwillig durch die Myrtenäste
Dahergerauscht ein Taubenpaar,
Läßt sich herab, und wandelt nickend
Über goldnen Sand am Bach,
Und rukt einander an;
Ihr rötlich Auge buhlt umher,
Erblickt den Innigtrauernden.
Der Täuber schwingt neugiergesellig sich
Zum nahen Busch und blickt
Mit Selbstgefälligkeit ihn freundlich an.
Du trauerst, liebelt er;
Sei guten Mutes, Freund!
Hast du zur ruhigen Glückseligkeit
Nicht alles hier?
Kannst du dich nicht des goldnen Zweiges freun,
Der vor des Tages Glut dich schützt?
Kannst du der Abendsonne Schein
Auf weichem Moos am Bache nicht
Die Brust entgegenheben?
Du wandelst durch der Blumen frischen Tau,
Pflückst aus dem Überfluß Des Waldgebüsches dir
Gelegne Speise, letzest
Den leichten Durst am Silberquell –
O Freund, das wahre Glück Ist die Genügsamkeit,
Und die Genügsamkeit Hat überall genug.
O Weise, sprach der Adler, und tief ernst
Versinkt er tiefer in sich selbst,
O Weisheit! Du redst wie eine Taube!

Johann Wolfgang von Goethe, 1772/73

Sämtliche Gedichte, Erster Teil. München: Deutsche Taschenbuch Verlag, 1968

Figure 8: *Top*: Hilmar Duerbeck and Waltraut Seitter on a terrace in Cochem, Germany (March 2001). *Bottom*: at a Bollendorf (Germany) restaurant in December 2001.

Eagle and Dove

[. . .]
There comes a wanton pair of doves,
Who settle down, and, nodding, strut
O'er the gold sands beside the stream,
And gradually approach;
Their red-tinged eyes, so full of love,
Soon see the inward-sorrowing one.
The male, inquisitively social, leaps
On the next bush, and looks
Upon him kindly and complacently.
Thou sorrowest, murmurs he;
Be of good cheer, my friend!
All that is needed for calm happiness
Hast thou not here?
Hast thou not pleasure in the golden bough,
That shields thee from the day's fierce glow?
Canst thou not raise thy breast to catch,
On the soft moss beside the brook,
The sun's last rays at even?
Here thou mayst wander through the flowers' fresh dew,
Pluck from the overflow
The forest-trees provide,
Thy choicest food, – mayst quench
Thy light thirst at the silvery spring.
Oh friend, true happiness
Lies in contentedness,
And that contentedness
Finds everywhere enough.
Oh, wise one! said the eagle, while he sank
In deep and ever deep'ning thought,
Oh Wisdom! like a dove thou speakest!

Translation by Edgar Alfred Bowring (1853).

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Appendix: Curriculum Vitae, compiled by Hilmar W. Duerbeck

This Appendix is also included on the web page of the present paper.

1948 born in Klarenthal (now Saarbrücken, Germany)

1966–1969 studied physics, University of the Saarland, Germany

1969–1972 studied astronomy and physics, Bonn University, Germany

1972 diploma thesis *Astronomical observations with a photoelectic area photometer*

1974 dissertation *The eclipsing binary VV Orionis*

1975–1985 scientific assistant at Hoher List Observatory, Germany

1975–1985 lecturer (astronomy) for the University of Maryland, European Division, Germany

1975 marriage with Waltraut C. Seitter

1979 member of the International Astronomical Union, Com. 42 (Close Binary Stars)

1980 habilitation in astronomy at Bonn University *Eruptive variables – observations, analyses, models*

1981 inaugural lecture, University of Bonn, Germany

1985–1991 lecturer (astronomy), University of Münster, Germany

1989, 1992 senior visitor, European Southern Observatory La Silla, Chile

1989 member of the scientific organizing committee of IAU Colloquium 122 *Physics of Classical Novae* (Madrid, Spain, June 1989)

1990–1993 senior academic staff member, German–Israeli Foundation for Research and Development (Nova Project; Astr. Inst. Münster – Wise Obs. Tel Aviv Univ.)

1992–1995 member of the allocation committee of the International Ultraviolet Explorer satellite

1994 member of the scientific organizing committee of IAU Colloquium 151 *Flares and Flashes* (Sonneberg, Germany, December 1994)

1994 exchange professor (DAAD), Universidad Catolica de Chile, Santiago

1995 lecturer (astronomy), University of Münster, Germany

1995, 1996 senior visitor, European Southern Observatory, Santiago, Chile

1996 honorary professor, University of Münster, Germany

1997 visiting scientist, Space Telescope Science Institute, Baltimore, Md., USA

1997–2004 member of the Editorial Board, *Information Bulletin on Variable Stars* (Budapest, Hungary)

1997 exchange professor (DAAD), UC del Norte, Antofagasta, Chile

1998, 1999 collaborative visitor, Space Telescope Science Institute, Baltimore, Md., USA

1998 member (ESA) of the program panel "binary stars" of the Hubble Space Telescope

1999 scientific collaborator (Vrije Universiteit Brussel, Belgium)

2001 co-editor, *Journal of Astronomical Data* (Vrije Universiteit Brussel, Belgium)

2002 member of the scientific organizing committee of the International Conference *Classical Nova Explosions*, Sitges (Barcelona), May 2002

2003 second secretary of the *Arbeitskreis Astronomiegeschichte of the Astronomische Gesellschaft*

2006 member of the editorial board of the book series *Acta Historica Astronomiae* (Frankfurt/M., Germany)

2006 associate editor of the *Journal of Astronomical History and Heritage* (James Cook University, Australia)