

Partially Ordering Koutny’s Traces

Jetty Kleijn and Paul Smit

Leiden, The Netherlands

Abstract. Motivated by the remarkable event of the 60th birthday of Maciej Koutny, this illustrated paper considers various traces of synchronising events involving Maciej. It does not claim to be complete, but provides a partially ordered survey of important features of a longtime collaboration between Newcastle and Leiden.

Keywords Research, Collaboration, Friendship, Travel, Synthesis

1 Introduction

In this survey paper, we describe synchronisations between specific processes executed by local agents in Newcastle and Leiden. The underlying mechanism is based on voluntary and eager cooperation. In almost three decades, this has led to an intricate combination of theory and applications based on the sharing of events and interests of all sorts.

Now is a good time to trace and order what has been achieved and what can still be done. In the past 30 years, founding father Maciej Koutny managed to double his age. Indeed, as Victor Khomenko put it in his invitation mail, a remarkable event. Apparently also a festive event in which many agents take part. Here we will identify various types of events in which Maciej (often with his spouse Marta) interacted with the authors (also a couple). Depending on the type and the relations between these types, some would be ordered, while others took place in parallel.

The paper is organised as follows. After explaining how it all began, we first focus in Section 3 on main events involving both Newcastle and Leiden. We identify different types of events, including ‘work’, ‘friends’, and ‘travel’. In Section 4, focus is on their enabling conditions. In the concluding section, we summarise and briefly consider how to proceed from here.

It must be noted here that we do not give explicit references, but rather provide photos to support the claims made. More information can be obtained by approaching Maciej directly and verifying with him what is written below.

2 Basics or How It All Began

As already mentioned in the Introduction, the cooperation between Newcastle and Leiden has existed for almost 30 years. It was initiated in 1989 at the first meeting of DEMON (DEsign Methods based On Nets) an ESPRIT Basic Research Action, a European project coordinated by Eike Best. This meeting

took place in Bonn as a satellite event of the 10th Petri Net Conference. It was an excellent setting to get acquainted with and connect to many people of different places with various interests in a common field of research: concurrent systems and in particular those based on the principles of Petri Net theory.



Hildesheim 1993

There were several people from Leiden, among whom Grzegorz Rozenberg and Jetty; and also a team from Newcastle with Maciej. DEMON had different working groups and Newcastle and Leiden collaborated among others in one concerned with Abstract Models. One year later, in 1990, the Petri Net Conference was held in Paris, again with a meeting of DEMON. Here Maciej and Paul met for the first time. Still, the oldest picture of our collaboration we could find, is only from 1993. It was taken at CONCUR in Hildesheim.

By 1997, Maciej, together with Eike and Raymond Devillers, was about to finish their book *Petri Net Algebra*, one of the outcomes of DEMON and its successor CALIBAN, CAusal calcuLI BAsed On Nets. At the meeting of the Program Committee of that year's Petri Net Conference in Toulouse, we compared our notes on local traces and comtraces and got intrigued by the question how to relate the features of multiple tokens and inhibitor arcs in a causality semantics. (A feature from the past: real-life PC meetings with real-time discussions, and opportunities for interaction.) This led to the submission of a proposal later that year for a project on Local Comtraces. The application was successful, we got the grant and the first synchronisation across the Channel was a fact.

Maciej could not attend the Petri Net Conference in Toulouse, because his daughter had to study for her GCSE exams while Marta had a paper to present at the conference. Thus Jetty and Marta met for the first time in Toulouse.

Early 1998, Jetty went to England as the start of our first Newcastle-Leiden project. She lived close to the university, but there was ample opportunity to visit the Koutnys at their home just out of Newcastle and to go together on weekend excursions in the countryside. This stay of several weeks laid the basis for numerous research papers, quite a few also with Marta, and many excursions and travels with the four of us.

3 Main Events

We are now ready to identify the main events underlying the cooperation between Newcastle and Leiden. In the context of this section, an event is an occurrence of an action. Each action may be executed a number of times, but its occurrences are always linearly ordered. Two events representing different actions (e.g., when

they are labeled as ‘work’ and ‘travel’, respectively) are not necessarily ordered and may even take place simultaneously.

Work

The events here categorised as ‘work’ are occurrences of the action ‘research’ (an abbreviation of ‘doing research together’). Obviously, we could refine this action and consider processes consisting of ‘thinking’, ‘meeting’, ‘discussing’, ‘writing’ etc, but that is not necessary for the purpose of this paper. Note that instead of ‘work’, also the word ‘fun’ would have been appropriate to capture doing research together. As will become clear further on, this would however have led to an overloading of ‘fun’.

Over the years Maciej and Jetty have co-authored approximately 50 papers and the count is still on. The first journal paper took a lot of effort. Before we could start on the local comtraces, we first had to investigate and systematise what it actually was that we were after and what needed to be defined and proven. Using the general framework then established, it was possible to investigate many different classes of nets and semantical models. After some time, our research area widened and we found additional co-authors, like Marta, Grzegorz, Łukasz Mikulski, and Ryszard Janicki. So, it happened that Jetty was recognised as an honorary Pole; and it took not long before also Paul was affected, even to the extent that he has started to appreciate beetroot.

In addition to ‘research’, there is also a distinguished action that belongs to ‘work’ and is referred to as ‘The Book’. This is a collaborative effort between Newcastle (Maciej), Leiden (Jetty), Toruń (Łukasz), and Hamilton (Ryszard). It grew out of our semantics/trace research and it is still growing ... So, obviously, a lot of research went into the book which also led to new papers, but an important difference between ‘research’ and ‘The Book’ is that the latter is a one-time-only event.



Signing of the contract for The Book

Moving

A perhaps surprising action that took place on both sides of the Channel was ‘moving’. There was no perfect synchronisation here, but almost. In 2003 Maciej and Marta moved to a house in Newcastle proper, perhaps inspired by our settling in the city centre of Leiden the year before. Moreover, both houses were old and dilapidated (making ‘moving’ quite different from ‘fun’) and for something like a year we mostly discussed house renovation. In 2003, when we took our children for an English holiday we also visited Maciej and Marta in the remains of their house. It then seemed that ‘moving’ was an action that should not be

repeated, but times change and it may become enabled again for both couples when the preconditions are favourable.

Friends

'Friends' stands for actions that amount to sharing the important resources of family, friends, and colleagues (note that, also here, 'fun' would have been applicable). Sharing of such resources does not lead to conflicts, but rather to a perfect tuning of a common context.



Maciej at 50

As may be concluded already from the above, over time we have been introduced to many members of each other's families and friends (some of whom were also colleagues, like Alex Yakovlev and his wife Masha). Family (children, parents, siblings) and friends from all backgrounds could be encountered on different occasions, at their homes, for dinners, during holidays, and festivities (like for our Silver Wedding). A very special occasion was the celebration of Maciej's 50th birthday in Poland¹ for which he invited old and new friends. We were delighted to be able to attend and meet so many people important to Maciej. Also present were Hanna and Witek Klaudel whom we did not really know personally at the time.

Travel

Working intensively together from different countries implies that one has to travel every now and then. And indeed there have been many working visits from Maciej and Jetty to Leiden and Newcastle. Moreover, Jetty is a fellow in Newcastle and Maciej has been a Pascal professor in Leiden. In addition there are the frequent conference visits (and trips to Bilthoven).

If that were all, we could have included this kind of events under 'work'. What makes 'travel' so special however (and even more 'fun'), are the additional journeys of an exploratory character, often to far away places. We have been traveling like this with Maciej and Marta almost every year since 2008. In that year the Petri Net Conference was in Xi'an. We had never been to China, but Maciej and Marta had. They were so enthusiastic that we decided to stay a bit and try to get an impression. We formed a



Maciej in Leiden with Grzegorz

¹ How come he now suddenly turns 60? It seems like yesterday ..

group with them and Elisabeth Pelz, who also had some China experience. We decided on an itinerary and means of transportation and had a wonderful time altogether. The next year, there was an opportunity to visit Iran and with the four of us, we travelled from place to place and saw amazing things. In 2011, we had a round trip through the West of Turkey, where we also visited the well-known mathematical village of Sirince.



Near Sirince, the mathematical village



In Khiva with Al-Khwarizmi

Traveling to exotic places became a tradition. In 2010 Hanna and Witek joined the club and we travelled from Shanghai to explore yet another part of China. Going home became a bit problematic due to the eruption of the Icelandic volcano, but in the end we had quite a jolly flight to Europe. With this group we have been again to China, to Japan and to Uzbekistan where we visited Khiva, the birthplace of Al-Khwarizmi. In addition we made smaller trips in the neighbourhood (France, UK, Italy, the Netherlands). So, ‘travel’ has become a crucial ingredient of the ongoing interactions between Newcastle and Leiden. It operates like a clockwork, we each have our role with Maciej being the moneyman aka the tax collector.



4 Enabling Conditions

As the reader is probably aware, actions — in order to occur — have to be triggered or at least become enabled (meaning that their preconditions have to be fulfilled). This principle is the basis for every causality semantics and we will apply it also here. In this section we describe some necessary preconditions for the actions categorised above. This should contribute to our understanding of the causalities in the complicated interactions between the different agents.

Triggering events

For the occurrence of the actions studied here, it is of paramount importance that someone takes the initiative. Often it is Maciej who initiates shared actions like ‘research’ and ‘The Book’. He is generous with his ideas and works hard, often with many different people at the same time. He seems to have an infinite amount of energy and to never sleep. His mails can come in any day of the week, at any time, and from any place.



Mailing from Yazd



Chair in Hamburg

Maciej gets things done, fast and in an efficient way. He is the chairman of the steering committee for the Petri Net Conferences and the director of research of the School of Computing at Newcastle University. Nevertheless, he always tries to avoid bureaucracy as much as possible and to focus on what is really important. Anybody who has ever seen his office, remembers jealously the emptiness of his desk.

To further perfect his style, Maciej tries to learn the trade from great leaders. He studies their histories looking for crumbs of wisdom. Maciej is however NOT the initiator of the ‘travel’ events that really matter. He is the moneyman, capable of keeping track of even the most complicated transactions (between euros, pounds, and yuans, yens, rials, or sums), but it is Marta who is the driving force together with Paul. They are the true leaders (with some good, relaxing influence exercised by Hanna).



Mao



Tammerlane



Paul and Marta

Food

Another important aspect of events are the resources they need to consume to be able to occur. This literally holds for all actions in which Maciej is involved. A stomach filled with good food is an absolute prerequisite for him to get anything done. Maciej has a love-hate relationship with food. As Marta pointed out: Maciej smiles at his food. Every now and then however, there has been a bit too much of the good life and Maciej being Maciej has a drastic solution: the cabbage diet. For about a week he lives on cabbage, smiles less, but paves the way for more pleasant encounters.



Maciej and Friend



A dining Philosopher

Maciej is a good cook, a wonderful host and knows how to get splendid food in the most remote places. All this greatly contributes to the synchronisation required for 'work', 'travel', and 'friends'. In general, Maciej loves the good things of life and likes to share them sometimes while singing great Polish songs.

5 Conclusion

In this paper we have followed some of the traces of our longtime professional and personal friendship with Maciej Koutny. It is impossible to be complete and to capture every aspect and describe every relevant event in this relatively short survey. Therefore we could present no more than a partial order of important features to fulfil our aim of giving the reader at least an impression of this striking synthesis of work, friendship and travel. Hopefully, it has become clear how Maciej with Marta on his side, has made great contributions to the quality of our lives, that we cherish the memories and that we hope to create many more in the years to come.

Gratulacje, Drogi Przyjacielu, i Sto Lat!

An important question now is ‘what can be done still once the milestone of 60 years has been passed?’ From our own experience, we can tell that being < 60 or ≥ 60 really does not make all that much difference. We strongly advise to go on with all fun-raising activities like research, travel, friends, and family, with having grandchildren as a great new highlight.

Acknowledgment

We are grateful to Victor Khomenko and colleagues, students and friends of Maciej, for the invitation to contribute to this Festschrift. Victor was quite flexible about the form of the contributions and so after ample consideration we eventually decided that we would like to write something together on the occasion of the diamond birthday of our colleague, fellow traveler and friend of many years. Moreover, unlike Maciej and Marta, we never coauthored a paper yet.

References

Pictures from the collection of Paul Smit, Leiden, 2018.