A Brief Survey on the Categorical Semantics for Geometry of Interaction
In Memory of Phil Scott

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Dedication to Phil Scott (1947 – 2023)

Philip Scott, better known to his friends and colleagues as Phil, was a Professor of Mathematics at the University of Ottawa (Canada). Sadly, Phil passed away[1] after a long battle with cancer – which he bravely fought till the very end – on 18 December 2023 at the age of 76. Phil was born on 27 December 1947 in Leeds (UK). When Phil was still a baby, his family moved to North Carolina (USA), where he spent his childhood. He went on to study mathematics at the University of North Carolina at Chapel Hill (USA), before moving to Canada in the 1970s. Phil did his Ph.D. at the University of Waterloo (Canada), supervised by Denis Higgs, and obtained his doctorate in pure mathematics in 1976. Phil joined the Mathematics Department at the University of Ottawa in 1982, eventually becoming Professor Emeritus, and remained there until his passing.

Phil was an amazing mathematician and had an illustrious career. Phil's most celebrated work is most likely his book with Joachim (Jim) Lambek: "Introduction To Higher-Order Categorical Logic" (1986), which is still to this day highly regarded and is one of the most essential books in category theory. Upon the news of Phil's passing, one of the most recurring comments from mathematicians and computer scientists

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[1] Obituary on the Canadian Mathematics Society Website:
https://notes.math.ca/en/article/in-memoriam-phil-scott-1947-2023/

from various research fields was how Phil and Jim's book was their introduction to category theory and categorical logic, shaping careers and research interests. Even as he was fighting cancer, Phil continued to be an active member in his mathematical communities.

On top of his research work, Phil was also an outstanding and supportive mentor to young researchers at all levels, as well as a wonderful teacher. He would always find the time for students, both those who were struggling in classes and those who were interested in pursuing a career in mathematics. Phil was also always happy discussing with young researchers about their research and giving many valuable suggestions. Even till the very end, Phil was supporting the young researchers under his supervision at Ottawa, demonstrating his dedication to being an excellent supervisor.

On a personal level, as well as being my friend, Phil was an important figure in the early stages of my academic studies and had quite an impact on the direction of my research interests. I first met Phil in my first year of undergrad, where he was my teacher for an introduction to group theory course[2]. At the time, I was way over my head and completely lost in my pure math courses: I didn't know how to do a proof, let alone what a proof actually was. It wasn't until Phil helped me that I was finally able to understand what was going on. I still have a clear memory of Phil taking the time after class, going through step by step with me on how to do a basic proof. He explained things so clearly. He genuinely seemed to care that I understood and succeeded. I truly believe that this was a pivotal moment in my academic career: without Phil's help, I would have probably kept on struggling and not learned to love mathematics (let alone go on to make it my career).

Throughout the rest of my undergrad, I had Phil again as a teacher for several other courses, such as advanced linear algebra courses and even history of mathematics courses, which he had lots of fun teaching. Sometime near the end of my undergrad, I was trying to figure out what field of research I should go work in. Seeking advice from Phil, I still remember our discussion where I was first introduced to this foreign concept of "category theory". As a motivating example, Phil used the concept that a vector space was not necessarily isomorphic to its double dual. In hindsight, I now understand that Phil was slowly introducing me to star-autonomous categories and Linear Logic. I credit Phil with opening the door to the path that led me to become a category theorist.

After my time at the University of Ottawa, Phil continued to be a mentor: he was always very supportive and happy to discuss my latest research interests or new results. I would meet up with Phil many times at the Foundational Methods in Computer Science (FMCS) workshop – the unofficial yearly Canadian category theory meetup. Anytime I passed through Ottawa, Phil would always bring us to his favourite restaurant, the Green Door – which was a walk or bike ride down the canal from the University of Ottawa. I also got the chance to spend lots of time with Phil when we both happened to be visiting the University of Edinburgh (UK) at the same time.

Phil's passing is a great loss for many communities, including the Canadian mathematics community and the category theory community. Phil was incredibly kind, a fantastic mentor, and a great friend to many of us. Condolences to his loved ones. May he rest in peace.

Acknowledgements

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[2]At this point, one should highlight that the University of Ottawa is a bilingual university, teaching courses in both English and French. As such, Phil taught me and many others in French.