

A man of words

In memory of Professor L. Michael Brown

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Abstract

This note highlights an often overlooked aspect of Michael Brown's scholarship: his interest in language, especially as it relates to mathematics.

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In 1978 the first author met Michael Brown for the first time, at an international topology conference in Budapest, Hungary. They were aware of their common research interests in bitopological spaces and related topics because each of them had read some of the other's early published papers. Their professional relationship was bolstered by the appointment of the first author by the University of Glasgow to be an external examiner of Brown's 1980 doctoral dissertation. This appointment was a secret for perhaps a decade - they enjoyed smiling about it later in their friendship. Over the years they met about a dozen times, usually at international conferences.

In 2004, the first author finally visited Ankara and Hacettepe University for the first time, to attend the Doğan Çoker memorial conference. The second author met Michael Brown at that 2004 Çoker conference. We were kindly hosted by Michael and his colleagues after requesting access to a Turkish-speaking topology community for our research into language effects on advanced abstract mathematics.

Our visit to Hacettepe University in 2004 was crucial for our research on language and topology [1]. We were able to discuss ideas with, and seek information

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from, several Turkish topologists as well as Michael Brown. For us this was a unique situation: a community who studied and worked in topology in a language other than English, French, or Spanish. Michael gave us books, dictionaries, and the whole group was able to speak to us about the development of a modern mathematical register in Turkish. Our debt to these consultants is explicit in our paper [1].

Prior to our 2004 visit to Hacettepe University, Michael Brown had been in correspondence with us concerning these matters. Let us quote some of Michael's own words [2].

In general terms both [English and Turkish] seem capable of expressing mathematical concepts and arguments with equal precision. But having said that I cannot help but feel that the structure of English is somewhat better suited to mathematics than that of Turkish. One point . . . is the position of the verb at the end of the sentence. Whereas in English one would write “ There exists a continuous function $f \dots$ ” which established from the beginning that it is the existence of something that is involved, in Turkish one would say something like “ having the property of continuity, a function f there is ” giving the property (continuity) first, of what (the function) second, and its existence last. Longer examples can have you describing quite complex properties of things before it comes clear what it is that has these properties. Of course the end result is no less exact in an absolute sense, and one gets used to having things this way round, so perhaps it is just a question of what one is used to. However, there are ways of forcing a word-order more similar to English by using an equivalent of “ such that ” (the result not being considered “ good Turkish ”). [This is] often resorted to by speakers used to lecturing in English and (often) by research students, so perhaps the effort required to produce a well structured sentence in such cases is something that even native speakers of Turkish find noticeable. Turkish is quite an expressive language, and the use of suffixes means one can pack a lot of meaning into a single word, so it is often very economic. In some areas it is well supplied with synonyms, but not in all, so it is sometimes difficult to name new concepts similar, but not identical to, known ones.

It is clear that Michael Brown was the right person to consult on the similarities and differences between Turkish and English as languages for the expression of topological ideas and concepts. He had, with his wife and colleagues, produced the canonical dictionary of mathematical terms [3]. It was our good fortune to be able to consult with him in the course of our research project.

References

- [1] Barton, B., Lichtenberk, F. and Reilly, I.L. *The language of topology: A Turkish case study*, Applied General Topology **6** (6), 107-117, 2005.
- [2] Brown L.M., private communication, 2003.
- [3] Hacısalihoğlu, H., Hacıyev, A., Kalantarov, V., Sabuncuoğlu A., Brown, L.M., İbikli, E., and Brown, S. *Matematik Terimleri Sözlüğü*, Ankara: Hacettepe University, 2000.