

IN THE HIGH COURT OF JUSTICE
BUSINESS AND PROPERTY COURTS OF ENGLAND & WALES
INTELLECTUAL PROPERTY LIST (ChD)

Claim No: IL-2021-000019

B E T W E E N :

CRYPTO OPEN PATENT ALLIANCE

Claimant

-and-

DR CRAIG STEVEN WRIGHT

Defendant

WITNESS STATEMENT OF
DR MICO LORETAN

I, DR MICO LORETAN, of [REDACTED] will say as follows -

1. I am an economist and the developer of the software package called selnolig for LaTeX. This statement has been prepared by Bird & Bird following an exchange by email, though I am told by Bird & Bird that our exchanges are considered privileged. This statement uses my own words and sets out facts and matters that are within my own knowledge unless otherwise stated: Where I refer to facts within my own knowledge, I believe them to be true. Where I refer to information from other sources, I have identified my sources and the information is true to the best of my knowledge and belief.
2. selnolig is a software package used with the LaTeX document software system for document preparation, which suppresses typographic ligatures selectively (by using predefined search patterns). Bird & Bird contacted me and asked about when I started work on selnolig and when I announced or first shared it, and my answer is as follows.
3. I've been fascinated by typographic ligatures for decades, and I've used LaTeX for all of my working papers ever since 1991. It wasn't until I read Don Knuth's TeXbook, in the early 1990s, that it ever occurred to me that ligatures could (and should) be suppressed when they're not appropriate. After that initial phase of curiosity, it wasn't until the mid-2000s that I thought again about a possible need for suppressing ligatures automatically, most likely upon reading a piece (in German) that lamented the sometimes indiscriminate and inappropriate use of ligatures. (I should maybe add that I speak and read both German and English natively.) It turns out that there's a much greater number of German words than English words for which ligatures should be suppressed. For example in Thomas Mann's novel "Die Buddenbrooks", selnolig uncovered 433 words; in contrast, there's only one word – "wolflike" – in Jack London's "Call of the Wild" for which a ligature – an fl-ligature, to be exact – should be suppressed.
4. I first posted a query on comp.text.tex somewhere around 2009, asking if there were methods for automating ligature suppression tasks in LaTeX. I learned from the answers to that inquiry that there was absolutely no way for automating these tasks using pdfLaTeX. Happily, one person mentioned, in an off-handed way, that

it might be possible to set up suitable routines using LuaTeX. I think that that was actually the very first time that I became aware of the existence of LuaTeX, which is a software system that extends pdfTeX in several ways. Back then, LuaTeX was still highly experimental and not yet suitable for “real” production work.

5. Two years later, in mid-2011, I asked a first query on TeX.SE¹ about how one might go about devising such LuaLaTeX-based routines. Fortunately, one of the answers was unbelievably helpful, in the sense that it provided a complete framework. That said, the real “magic” of the `selnolig` package, if I may be so immodest, lies not in its Lua code but in the large number of well-debugged `\nolig` and `\keeplig` rules that determine which ligatures should be suppressed in which words or, more precisely, in which word patterns, for both English and German language documents. After this initial, i.e., mid-2011, breakthrough, it still took me more than a year to bring the code up to snuff; among other things, I had to teach myself Lua, the scripting language that’s embedded in LuaTeX. Fortunately for me, LuaTeX was adding new capabilities and was also maturing rapidly around the same time, so that it wasn’t preposterous anymore to ask normal users to switch from pdfLaTeX to LuaLaTeX to compile their documents. I worked on the `selnolig` package very intensively all through the fall of 2012 and into the spring of 2013. I posted a first complete version of `selnolig` to the CTAN [the Comprehensive TeX Archive Network, a website which allows users to download software packages for use with LaTeX] in May 2013 at <https://ctan.org/ctan-ann/id/mailman.427.1369694287.5851.ctan-ann@dante.de>, a copy of which is at **Exhibit ML1**.

6. After I provided that answer, Bird & Bird showed me the preamble sections of two LaTeX documents, the texts of which are both in **Exhibit ML2**. It is possible to see that a package labelled `selnolig` is called upon at line 42 of each document (using the line numbers shown in Exhibit ML2). Bird & Bird has asked me whether this would have been possible in 2007. The `selnolig` package which I uploaded to the CTAN in May 2013 could certainly not have run successfully on versions of LuaLaTeX that existed before 2011. Indeed, I took care to include in the aforementioned announcement to the CTAN a caveat that the `selnolig` package required “a recent LuaLaTeX format (for example those from TeXLive2012 or 2013)”. I posted this requirement precisely because I was aware of the fact that earlier versions of LuaLaTeX did not provide all of the functionality that was needed for the `selnolig` package to run properly.

7. I am not aware of any other LaTeX package that is named `selnolig`. I came up with the name `selnolig` by myself in 2011, as an abbreviation for “**selective non-use of typographic ligatures**”. I chose this name carefully, so as to avoid any possible confusion with the names of any other software piece I was aware of. For sure, there was no package called `selnolig` on the CTAN until I uploaded mine in May 2013.

¹ <https://tex.stackexchange.com/questions/28437/can-one-more-or-less-automatically-suppress-ligatures-for-certain-words> , dated 14 September 2011

DECLARATION

I understand that the purpose of this witness statement is to set out matters of fact of which I have personal knowledge. I understand that it is not my function to argue the case, either generally or on particular points, or to take the court through the documents in the case. This witness statement sets out only my personal knowledge and recollection, in my own words.

On points that I understand to be important in the case, I have stated honestly (a) how well I recall matters and (b) whether my memory has been refreshed by considering documents, if so how and when.

I have not been asked or encouraged by anyone to include in this statement anything that is not my own account, to the best of my ability and recollection, of events I witnessed or matters of which I have personal knowledge. I believe the facts stated in this statement are true. I understand that proceedings for contempt of court may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth.

SIGNED: *Mico Loretan*

DATED: 6 November 2023