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Editorial

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This was the semester it was all meant to go back to normal. Hybrid teaching in the fall, everybody said. Then in the winter term it would be just like the old days. But, as we all know, along came Omicron, and things fell apart.

I know: you don't want to read an editorial about COVID. I don't want to write an editorial about COVID. So I won't. Instead let me tell you...

I was amused to hear how many people called the new variant "Omnicron" or "Omnicon" at first. It makes sense: until a couple months ago, it wasn't a name that most people heard much. Outside of fraternities and sororities (and the Christian use of "Alpha and Omega"), most people tend to hear Greek letters in a scientific context or not at all. And omicron doesn't get much use — mathematicians and physicists avoid it in formulae because it doesn't have a distinctive glyph. Astronomers use it, but as they use it for the fifteenth-brightest star in a constellation, it doesn't get much screen time there either.

Fortunately, we've never had enough tropical storms in one year for the meteorologist to announce a "Hurricane Omicron." The WMO has retired the Greek alphabet as a source of storm names anyhow. Some of the "Greek storms" of 2020 were severe enough that protocol called for those names to be retired – and they felt they couldn't retire single letters from it, so they went to a second alphabetical list list of given names.

Maybe that decision was premature. After all, Classical Greece retired letters on occasion. Where now are digamma (F), stigma  $(\zeta)$ , koppa  $(\mathcal{H})$ , and sampi  $(\eta)$ ? Not just a rhetorical question: all four of them ended up with post-retirement jobs as Greek numerals. At various

times digamma and stigma represented 6; koppa was 90; and sampi was 900. Many years later, mathematics also found a role for digamma: F(z) is the logarithmic derivative of  $\Gamma(z)$ , that is,  $\Gamma(z)/\Gamma(z)$ . Just for good measure, the trigamma, tetragamma, etc. functions were defined; they are sometimes represented by "letters" that look rather like coatracks.

The use of  $\Sigma$  and  $\Pi$  for sums and products is straightforward. But what of the  $\underline{\square}$  we use for coproducts? That seems to have a fair amount of history, starting off back in the 19th century when Peano introduced U and  $\Omega$  for union and intersection. Russell introduced "v" for "or" in 1908 (presumably from the Latin "vel".) He used a dot for "and" — underlining its formal resemblance to multiplication, but not its de Morgan duality with "or." Only in 1930 did Heyting introduce " $\Lambda$ " for "and", underscoring the similarity between than operation and set intersection. With the advent of category theory, of course, extending this to an inverted product symbol for disjoint union was almost obvious. But it seems as if there's a coincidence somewhere in the process. Peano surely didn't invent the  $\Omega$  symbol to resemble  $\pi$ .

I'm not quite sure what the moral of all this is. But it's better than one more story about COVID.