

## Editorial

# Data, Inspiration, and the New Year

I'm writing this editorial in the cold, gray month of December, looking ahead to a time that seemed so far away for most of 2020. The new year is always a significant milestone, but given the year we've had in 2020, it's even more so.

There's the temptation here for me to be introspective, to look back on a year that has radically shaken up everyone's lives, with impacts on how we live, work, and socialize that will be felt for a long time to come. It's been repeated to the point of cliché by now, but these really are unprecedented times.

For us, here at *Patterns*, I'm humbled and awed at how far we've come. Launching a new journal is hard enough at the best of times, but launching during a global pandemic, with all the conferences and face-to-face meetings cancelled, is definitely adding another layer of difficulty on top. I continue to be amazed and so incredibly grateful for the support of our wonderful authors, reviewers, advisory board members, and readers, along with our colleagues at Cell Press, who have supported and guided us from the very beginning.

The new year is a time for new beginnings and a fresh start. I feel it's very important to not just close the door on the year before, no matter how much we want to kick the old year as far away as possible. As researchers, we look to the past for what we can learn from it. We build on the knowledge and understanding of others, and we develop and grow our own.

When we look to the future, we must acknowledge the past. The COVID-19 pandemic has been on our minds for a long, long time now, and is likely to continue to be so in 2021. Still, there are signs on the horizon of a new dawn slowly creeping closer. Vaccines have been tested and are starting to be rolled out, and treatments are far more effective.

From the point of view of us data scientists, the power and usefulness of data have been demonstrated far more strongly and widely than ever before. The results of epidemiological models have made headline news, and data collection around the world has become a topic of conversation for non-data scientists. People are starting to grapple with the whole notion of how to count and understand large (and small) numbers, and what those numbers actually mean. Are we comparing apples to pears, comparing COVID death rates between countries? Often, yes, especially if we're not looking at other confounding factors like total population, demographic, geographical spread, etc.

From the very beginning, *Patterns* has kept in mind the importance of people. It's easy to abstract numbers—that's why we find them useful, after all—but it's also vital to remember the real-world impact of our research. There have been plenty of occasions over the past year or so, when published science has fallen unexpectedly short, because the social impacts of that research were not considered or were touched on only lightly. Responsible data science is not just about preserving your data, code, and methods for the scientific record, it is also about examining the difficult questions of who or what might possibly be harmed as a result of this work.

One seems a very small number, but even one untimely death is tragic. We were reminded of this again and again in 2020, with

COVID, with Black Lives Matter, and a whole host of other events.

One is a very powerful number too. Groups of individuals came together to develop the COVID vaccines, and to work together and share expertise across domain boundaries. This collaboration happened organically, people with skills and expertise reaching out to each other to work together in common cause. There was a massive outpouring of research, all of which was made freely available, in order to help us solve the pandemic problem. This shows us the power of open science, and the essential nature of open data. Collaborations have broken down discipline-specific silos and have helped us progress far and fast, showing us that we can work together for the greater good.

I have been thinking a lot about inspiration in recent weeks—how to find it, how to develop it, how to build on it to create something of value. At this time of year, in the northern hemisphere, we'd be settling down around the fire, singing songs and telling stories, while planning for the spring. We are still doing this, still reaching out for social connection, even if it is through zoom, and we are still telling our stories to each other, through publications, podcasts, and social media.

My most favorite part of my job is when I am talking to an author, and they tell me about their research. It's always such a lovely time for me, to hear the author's excitement and enthusiasm about their work, and to witness their passion and their interest. I learn so much from conversations like these.

That is what *Patterns* exists to do. We help researchers share their work in a way that is open and accessible, and across domain boundaries. Everyone uses data in one way or another—data truly are the foundation of research.

We share research and knowledge, and in that sharing, we inspire ourselves to greater heights, and others to new thoughts and ideas. Inspiration can come at the strangest moments, from the strangest things—like taking a bath or seeing the shape of a spiral staircase. That is why, at *Patterns*, we are not so concerned about what domain the data come from (ethical exceptions obviously aside). What matters is how the data were used, and what was learned from that research, shared in a way that another researcher outside the original domain can understand and be inspired by.

We share lighter things too, art and music that has been inspired or derived from data. Often they have a serious purpose—collecting GPS data of bird migrations, for example, gives us valuable information about the bird population and the state of the environment. Processing that already existing data into music is another layer that helps us not only understand in new ways what is happening with the data but also adds a layer of inspiration and beauty to what could easily be considered as “just numbers.”

We help GANs to dream and create, so we can study how that creativity can manifest in a non-human system. The results are talking points as well as being interesting, and they can provoke discussion about ourselves and the systems we develop. And sometimes we play with data because we are human, and that is how we learn and have fun.



Looking forward to 2021 for *Patterns*, I want to continue building on the work we've done in the past year. We've made an excellent start at bringing together a new community, at building bridges across domain boundaries, and at opening up new conversations that are important to us as data scientists, and to the wider population as a whole. And all of this is thanks to you, your work, your dedication, and your willingness to share.

To all our wonderful readers, authors, reviewers, and advisory board members, I wish you all health, prosperity, and happiness,

in this new year of 2021. We will face many challenges, but I am sure that we have the skills, knowledge, and wisdom to be able to deal with them. Thank you for sharing your work with us in 2020, and I very much look forward to seeing what wonderful new things we can all learn from each other in 2021.

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