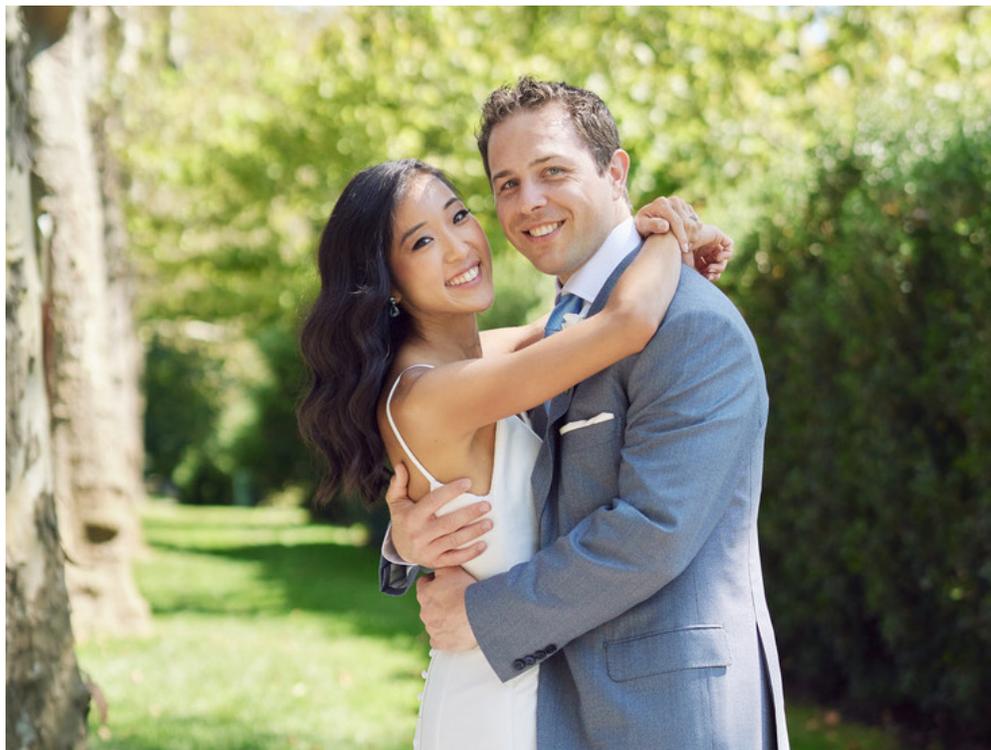


Memory Making

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Exactly three weeks ago today, my oldest son got married. Brendan and his bride, Hiromi, were beaming on this sunny, breezy afternoon in the garden, surrounded by friends and family who came to bear witness and celebrate. It was a day of memory making.



I know some people think we get carried away and exaggerate the significance of moments like this. They say it's just a few hours, so why all the fuss? I think just the opposite. Such milestones invite us to tell our story and write another chapter on life's journey. Based on experiences converted to memories, these stories we compose bring meaning to our lives.

1. Memory is at the core of all learning. Entire fields within psychology and neurology are dedicated to understanding how human memory works. Heuristically, it is useful to think of memory as having three parts. The first is sensory storage. At this stage, our brains hold a stimulus for a fraction of a second. If it has meaning or relevance, it progresses to short-term memory. If deemed unimportant, we dismiss it. The second part - short-term memory - is the brain's system for remembering information in use. Information that we are not immediately engaged with get dismissed (like the caterer's phone number that I called weeks ago). While other memories - those we deem worth keeping - go into the third stage of memory, often called long-term storage. Of course, I have lots of keepers from the day - images of Brendan and Hiromi walking slowly down the aisle arm-in-arm, exchanging vows under the chuppah, and being lifted in chairs to the sky as Hava Nagila played and we danced the Horah - to name a few.

2. Memory sits at the heart of consciousness. Reconstructing the past and anticipating the future - the ability to travel in time in our heads - is central to human cognition. Being able to remember the past, envision the future, and conceive of the viewpoint of others, emerge at a similar age and share common functional anatomy, including frontal and medial temporal systems of the brain. These abilities are often studied as distinct cognitive processes, but increasingly our understanding of memory suggests that we use past

experiences adaptively to imagine perspectives and events beyond those within our immediate environment. Some say, it's what makes us human.

3. Memory only exists in the present. At Brendan and Hiromi's wedding, we remembered family members who were not with us. As we said the blessing over the challah, we covered it with the cloth we use every Shabbat, reminding us of family traditions and Brendan's great grandmother who embroidered it. The past was present. [St. Augustine](#) captured this dance of memory and time when he said, "*Perhaps it might be said rightly that there are three times: a time present of things past; a time present of things present; and a time present of things future. For these three do coexist somehow in the soul, for otherwise, I could not see them. The time present of things past is memory; the time present of things present is direct experience; the time present of things future is expectation.*"

4. So what makes memories last? Hello, feelings! In fact, the relationship between emotions and memory is extraordinarily complex and nuanced. Emotional arousal tends to enhance memory for high-priority information, but it interferes with remembering low-priority information. Columbia Professor of Psychiatry and Neuroscience, Rene Hen, an expert on emotion and memory, [says](#), "It makes sense we don't remember everything. We have limited brain power. We only need to remember what's important for our future wellbeing." Our emotions help define what matters. The feelings of joy and excitement at Brendan and Hiromi's wedding helped ensure that we remember many details of the celebration.

5. When memories get in the way of mental health. Given the complexities of our minds and memory-making, it is undoubtedly the case that memory can also be a source of pain, and as such, is central to many mental disorders. Remembering and re-experiencing traumatic events puts individuals at risk for [Post-Traumatic Stress Disorder](#). Cognitive perseveration and painful memories are part of various mental disorders, including depression, anxiety, and complex grief. And, of course, loss of memory is the defining feature of dementia. There is no doubt that memory and mental health are intimately connected both in health and illness.

I imagine years from now, looking at wedding photos - maybe with a grandchild(!). Today, I anticipate a future of remembering the past in this time travel of mind and memory. I see Brendan and Hiromi joyfully embracing, hear Israel Kamakawiwo'ole's Somewhere Over the Rainbow, taste the summer harvest menu that included honey from our hives, feel my mom's arm in mine as we processed together down the aisle, and yes, even smell the roses. Memory making.