

## Chapter 1: The Dymphna Complex



*Figure 1 Devotional image of St. Dymphna. Note the little demon underfoot.*

There is a town in Belgium called Gheel (or Geel) in which everyone is mad.

Or rather, as the local saying goes, “half the inhabitants are mad, and the rest are half-mad.”

For many centuries, Gheel has taken in the “mentally ill.” They are boarded with local families, but allowed to live a normal life. I know of no clear study showing that medical outcomes for Gheel are statistically better than anywhere else. Psychiatric studies are rarely or never conclusive in any case; they do not know what they are looking for. The best testament to the effectiveness of Gheel is that so many of the mad themselves, after a pilgrimage there, have chosen to stay, over so many centuries. They must have found something. They are those best able to say what works for them.

And the psychiatric studies tend to suppose any therapeutic effect has to do with living in the community. Yet this is actually no part of the original Gheel concept or experience. It only evolved by happenstance, because the press of suffering pilgrims who did not leave became too great to be accommodated by the original local hospice. When they chose to stay, they had to be boarded somewhere.

The therapy, invisible to the psychiatrists, is there in the local church. It holds the relics of St. Dymphna. The disturbed come to Gheel for a miracle cure.

Catholic commentator David Warren writes, wryly:

It is one of the dirty secrets of medicine that “miracle cures” often work. It begins, I should think, when the afflicted soul desires to be rescued; when by grace he or she dimly begins to appreciate that neither the pharmaceutical nor the surgical industries can offer much help. Drugs may induce artificial mood changes, and a frontal lobotomy might reduce one to an even less harmful turnip, but neither can offer a cure. Even electro-shocks, when they seemed to work (as they did when they were practiced), brought only temporary relief. The afflicted is seeking something more permanent, and looks in the only place it could possibly be found.<sup>i</sup>

The best testament that the pilgrimage to Gheel works is that it has persisted over so many centuries; this amounts to empirical evidence of its effectiveness far greater than can be marshalled for any modern psychiatric treatment. And the resulting fame of this young Irish princess, St. Dymphna, has spread so far that she is venerated even in Eastern Orthodoxy.

Nor was this something that emerged from the Church. The first surviving account of Dymphna, by Pierre de Cambrai, dates to the 13th century; by then, he says, her local cult was already well established. St. Dymphna became a saint by acclamation, and her pilgrimage was established four or five centuries before she was canonized in 1247. She was understood to have lived in the seventh century, and to have been venerated in Gheel ever since.<sup>ii</sup> Nor did the church authorities decide she had some special tie to mental illness. It seems to have been the mentally ill themselves, based on the legend they heard.

What did they hear? What exactly is Dymphna’s association with what we call mental illness?

Here is her story, in brief:

In what is now County Tyrone, Ireland, a king named Damon ruled a small kingdom called Oriel. Himself a pagan, Damon had a beautiful Christian wife, and they had an equally beautiful Christian daughter, the princess Dymphna.

When Dymphna was fourteen, her mother died. King Damon was inconsolable. He decided he must have a new wife who resembled his former wife in every way. After much consideration, his advisors hit upon the idea of having him marry his daughter. Who, after all, looked or acted more like the dead queen?

Dymphna, repelled, fled with her confessor Father Gerebernus and with the court jester. They came by chance in time to the Flemish town of Gheel. There they lived a pious life alone in the nearby woods.

Unfortunately, their spending left a trail of Irish gold coins that Dymphna’s father could trace. He arrived one day with his retinue, again demanded immediate marriage, and was again refused. So he beheaded his daughter on the spot, as well as the venerable Gerebernus.

Dymphna was fifteen years old.

## **Who’s the Lunatic?**

One story among many of early Christian martyrdom. How did this identify Dymphna as the patron saint of the mentally ill? What does any of this have to do with madness? Who is mad here?

It is generally suggested that the connection is that her father was obviously mad, in wanting to marry his daughter.

Yet this does not sound quite right. It may seem improper to us for a king to want to marry his daughter. But royal incest is fairly common on the record, and so not evidence of mental illness as we define it. *Listverse* provides a helpful list of ten historic royal families “riddled with incest.”<sup>iii</sup> Incest was pretty standard practice in the non-Christian dynasties of ancient Egypt, Peru, Korea, Hawaii, or Japan. Roman emperors sometimes indulged. It is not madness, if you are king, to go in for incest; if you are king, you can get away with it. It is immoral.

As a matter of either historicity or narrative plausibility, kings who are obviously mentally ill also tend to be removed from command. The welfare of the state depends on it. It is not very credible that those closest to King Damon would simply continue to obey a leader they perceived to be mad.

If this were not clear enough, most accounts mention that it was his court advisers who suggested to Damon the idea of marrying his daughter. They obviously did not consider it mad.

Nor does it sound plausible that one might, sitting depressed in Koln or Strasbourg, hear the story of St. Dymphna and identify with the villain instead of with the heroine.

Nor does it make sense that the mentally ill would come from far away to ask for intercession from the victim of a mentally ill murderer. Granted that Dymphna was a saint, and no doubt forgiving; doesn't that sound impertinent?

Nor, if the mentally ill are to see themselves in Damon, does the story offer them much hope. He is not healed of his supposed delusion; he is presumably condemned to hell.

So it would seem that the mentally ill who have flocked to Gheel must instead see themselves in Dymphna.

### **Is St. Dymphna mad?**

Realistically, yes; she would have been, in the eyes of her own society; and that is how "madness" is determined. Certainly today. Given that royal incest was a common practice, she would have been mad in the eyes of pagan Oriel to refuse the chance to be queen, and to rebel against her king, her father, and her government.

Perhaps it is here that to the mad Dymphna's story echoed their own: that they have been declared mentally ill for doggedly following their conscience in an immoral milieu. Perhaps they have had to stand against a kingdom; perhaps against their family of birth. Interesting and instructive that, unlike any other pilgrimage, the pilgrimage to Gheel does not end with the pilgrims returning home.

We must now account for the little demon that Dymphna is often pictured with, either underfoot or on a chain. There is nothing about a demon in her legend; so where does this image come from?

One might expect a demon to represent temptation to sin. Yet in the legend, Dymphna does not seem seriously tempted to the featured sin of incest. One might expect her to be tempted to save her life through assent to the incestuous marriage at the story's climax; but no hint of equivocation is given in the usual account. Her steadfastness is emphasized.

This temptation to save one's life, moreover, is a temptation shared with all martyred saints. Yet other martyrs are generally not portrayed with a demon on a chain. St. Margaret of Antioch is shown with a dragon on a chain; this seems to be the closest parallel. And St. Margaret's life resembles Dymphna's in one critical way: opposition from a pagan father.

So, if not temptation, what does the little demon represent?

Demonic possession is a common image of mental illness. Even Freud's clinical term "obsession" for mental illness originally meant "hostile action by an evil spirit." This seems to be the understanding in the Bible as well. In Mark 3: 20-22, for example, "he is out of his mind" and "he is possessed by a demon" are presented as parallels.

If mental illness equates to demonic possession, then a demon represents mental illness; and a demon on a chain implies that Dymphna has overcome this.

And so can do the same for her supplicants.

### **All in the Family**

From the perspective of her Oriel homeland, Dymphna no doubt seemed mad. Yet from our modern perspective, it is King Damon who seems mad—witness the fact that modern commentators nearly always assume this.

Damon indeed seems to model what the Diagnostic and Statistical Manual (DSM) calls "narcissistic personality disorder."

The symptoms there given are:

1. Grandiosity with expectations of superior treatment from others
2. Fixated on fantasies of power, success, intelligence, attractiveness, etc.
3. Self-perception of being unique, superior and associated with high-status people and institutions
4. Needing constant admiration from others
5. Sense of entitlement to special treatment and to obedience from others
6. Exploitative of others to achieve personal gain
7. Unwilling to empathize with others' feelings, wishes, or needs
8. Intensely envious of others and the belief that others are equally envious of them
9. Pompous and arrogant demeanor<sup>iv</sup>

The matter is complicated by the fact that Damon is a king. He has legal and social warrant to consider himself superior to others and entitled to obedience. No one is going to argue with him; including any psychiatrists, had they been present in seventh-century Oriel.

Damon lacks not sanity, but morality; and it is just this that is invisible to psychiatry. His demands violate the ethical imperative, demonstrated by Kant quite apart from any religious tradition, to see others as our equals, with free will, not existing for our benefit. His demands violate the Golden Rule.<sup>v</sup>

But if both Dymphna and Damon can be seen as either mad or sane, depending on your social perspective, perhaps this shows in the first place that mental illness is not something that involves only an individual, but requires and expresses a social context. "Mental illness" is a dysfunctional relationship; there will always be at least two parties involved, a narcissist and a martyred victim. The illness exists between them.

This explains the demon image: the illness has its own existence, external to the psyches of either of the two (or more) human parties involved.

The fact that Dymphna herself did not in the legend show the symptoms we see as mental illness—depression, lack of direction—but stood firm in her convictions and her sense of right, is then warrant of her power to heal. Her story is the path to liberation.

## **Madness and Sin**

Here we must touch on a flaw at the heart of modern psychiatry and psychology, often mentioned. How can you determine what "mental illness" is without a solid concept of "mental health"? How can you say what is delusional until you know what is truth? How can you say what is wrong without a clear understanding of what is right?

Psychiatry tends to measure sanity merely in terms of social acceptance and social success. This is natural enough: the story of Dymphna suggests the same in her own time and place. This, however, works only if society is itself always sane and moral. Which is an obviously false assumption.

*"Madness is rare in individuals — but in groups, parties, nations, and ages it is the rule."* (– Nietzsche).

One need only look at the history of the 20<sup>th</sup> century to see that this is true.

It is only from a philosophical, even a religious, standpoint that we can settle such matters. The proper definition of "sanity," surely, if we are going to use the term, is an orientation towards what is true and good. To determine sanity, we must first know what is true, and what is good. This is the preserve of philosophy, not science. And more explicitly, of worship; that is, worth-ship.

Psychiatry uses the label “narcissistic personality disorder,” for people like King Damon. St. Augustine identifies self-love—narcissism, in the latter’s root meaning—as the critical factor that separates the blessed from the damned:

Accordingly, two cities have been formed by two loves: the earthly by the love of self, even to the contempt of God; the heavenly by the love of God, even to the contempt of self. The former, in a word, glories in itself, the latter in the Lord.<sup>vi</sup>

What the DSM calls a “mental illness” is simply, to Augustine, a sin.

Calling it “mental illness” instead strips out the idea of human agency; it implies that Damon had no free will.

Is this possible? Can someone be, as the law allows, “not guilty by reason of insanity,” of acts that are objectively immoral?

Even religion admits the possibility. While we all have conscience and free will, conventional Christian morality allows that our conscience and free will can become impaired by the habit of sin. In this sense, we can become “spiritually sick.” This is the concept of vice. A sin can become an addiction, like alcohol to an alcoholic. The alcoholic knows he is doing himself harm; yet he will persist.

This loss of free will again justifies the traditional image of sin or temptation as a demon. It is as though some independent will has taken over from our own will. The matter is now beyond Dymphna’s control, coming from Damon; but it may also be beyond Damon’s full control, because he is possessed by his lust.

Demonologies commonly identify different demons with various vices. It makes sense: it is the most vivid description of the subjective experience. We are possessed by the demon of lust, or avarice, or pride, or the demon rum, or the demon narcissism.

And so we can see Damon as “spiritually ill,” “mentally ill,” in this sense. He is possessed. We can say he is possessed by the spirit of narcissism, which seems to roughly correspond in traditional terms with pride.

But at the same time, by this ultimately correct perspective, the Gheel Pilgrimage implies that those “mentally ill” folk who come, and stay, are not truly mentally ill. They are caught in a mad dynamic, obsessed by a demon vice that possesses another family member.

## **Narcissism and Melancholy**

To make the point more plain, we might say that Damon is possessed by the sin of pride. Dymphna is oppressed by the sin of pride—that is, in another.

Demons are commonly understood to operate in these two ways: possession, and obsession or oppression. The former, as King James explained in his *Daemonologie*, is an attack from within; the latter is an attack from without.<sup>vii</sup>

Dymphna holds this demon in chains. In another victim, it might have manifested as chronic anxiety and depression. Who would not be anxious and depressed, after all, knowing their own father wants to kill them? And their entire society is on his side?

We currently count both “narcissism” and “depression” as individual mental illnesses. Yet they are obviously opposite spiritual conditions. Narcissism means excessive self-love. Depressed people usually have “low self-esteem.”

Complicating matters further, as we shall see, narcissism can produce symptoms quite similar to classic depression: a sense of general dissatisfaction with the universe for failing to meet one’s grandiose expectations, a sense of anxiety from a troubled conscience.

This is an unfortunate artifact of our current psychiatric approach. The DSM, and psychiatry generally, does not really speak of diseases of illnesses. It knows only of symptoms. But the same symptoms can come from different

underlying illnesses; the same illness can have seemingly unrelated symptoms. Just as a “fever,” although superficially similar in its essence, can be caused by many conditions, so can “depression”—that is, feelings of sorrow or anxiety.

We need here for clarity to make a distinction, then, that psychiatry cannot make, between sorrow and anxiety caused by being possessed by a vice and sorrow and anxiety caused by being oppressed by a vicious person (“vicious” being the adjective formed from the noun “vice.”)

We will from here on use the older term “melancholy” to describe the classic problem underlying “depression,” that represented in the Dymphna legend by Dymphna herself.

Dymphna presents a moral example for the abused or threatened soul, the melancholic.

## Depression and PTSD

The currently dominant idea among psychiatric professionals seems indeed to be that depression (melancholy) and most other mental illness is the result of “abuse”—as Dymphna might well be said to be abused in the story.

“Abuse” is another difficult term: how can we define the “abuse” of another person unless we have first defined the “use” of a person? And psychiatry or psychology, of course, has not done that. That is a job for philosophy or religion.

But it can, that said, be rather easily done. Abusing someone is treating them in a way that violates the Golden Rule: forcing them to do what you want instead of what they want, in a way you would object to if they did it to you. By this standard, Damon plainly abuses his daughter Dymphna by demanding marriage.

This notion among psychiatrists that depression is the result of abuse probably gained traction because we are seeing a lot of PTSD—post-traumatic stress disorder—in the US and other nations from the recent wars in Iraq, Afghanistan, and now Syria. The similarity between the symptoms of PTSD and what is called depression or anxiety disorder has become apparent. What is more, the standard anti-depressants usually seem to work as well on PTSD.

If it looks like a duck, and it quacks like a duck...

This then further implies that “depression,” meaning the DSM list of symptoms, and possibly other forms of “mental illness” generally, are most commonly the result of a traumatic childhood—just as the Dymphna legend has implied for over a thousand years. A childhood as frightening as living through a war on the front lines. Or perhaps more like living through an insurgency, where the front lines are never clear. Or like living with a father who wants to kill or rape you.

The Center for Disease Control, official arm of the US government, takes this as proven.<sup>viii</sup> They note that, “In one long-term study, as many as 80% of young adults who had been abused met the diagnostic criteria for at least one psychiatric disorder at age 21.”<sup>ix</sup> Given the inaccuracy of psychiatric diagnosis, the real figure may be 100%. Or it might be 100% even with inaccurate diagnosis if the same group were surveyed a few years later. *Psychology Today* maintains that “In almost every case of significant adult depression, some form of abuse was experienced in childhood, either physical, sexual, emotional or, often, a combination.”<sup>x</sup> A recent study by Martin Teicher at Harvard, confirmed by other researchers,<sup>xi</sup> demonstrates that childhood abuse causes permanent changes in the brain.<sup>xii</sup> The *Wikipedia* entry for “Depression” accordingly gives, at this writing, under “Causes”:

Adversity in childhood, such as bereavement, neglect, mental abuse, physical abuse, sexual abuse, and unequal parental treatment of siblings can contribute to depression in adulthood. Childhood physical or sexual abuse in particular significantly correlates with the likelihood of experiencing depression over the life course.<sup>xiii</sup>

Childhood abuse has also been found also to correlate strongly with panic attacks, dissociation, dissociative identity disorder, bipolar disorder (manic depression), schizophrenia, alcoholism, addiction, drug abuse, and eating disorders.<sup>xiv</sup> That’s pretty much the range of what we now call “mental illness”—excluding narcissism and similar

“cluster B personality disorders.” Which look as though they are an entirely different beast, vices, like that possessing Damon.

Childhood abuse has also been found to produce higher rates of cardiovascular disease (heart disease), lung and liver disease, hypertension (high blood pressure), diabetes, asthma, and obesity.<sup>xv</sup>

A summary meta-analysis by Judith Carroll and colleagues, published in the *Proceedings of the National Academy of Sciences* (US), concludes that the psychological damage resulting from childhood abuse and its effects on physical health are “well documented.”<sup>xvi</sup>

How confident can we be in this association of depression with childhood abuse? Psychiatry and psychology do not have a perfect track record. A recent study at Johns Hopkins finds that half of those diagnosed as schizophrenic were suffering instead from chronic anxiety.<sup>xvii</sup> A study in *Science* found that only 40% of claimed results in psychology could be duplicated when the surveys or studies were repeated.<sup>xviii</sup> A recent study in *Nature* produced quite similar results—this study, at least, has been duplicated.<sup>xix</sup> Another large and systematic study called “Many Labs 2,” involving 200 psychologists and testing some of the best-known maxims of the field, was able to reproduce the claimed results only 50% of the time.<sup>xx</sup> “In recent years,” writes *The Atlantic*, “it has become painfully clear that psychology is facing a ‘reproducibility crisis,’ in which even famous, long-established phenomena—the stuff of textbooks and Ted Talks—might not be real.”

If only 50% of major published studies yield reproducible results, the data on which our practical psychology is based is apparently no more reliable than flipping a coin. Any assertion it makes is no more likely to be true than untrue.

But this time, psychiatry has at least found hard evidence from physical medicine: the Harvard study of brain scans, the links of mental illness with stress-related physical ailments.

Perhaps more significantly, it is also now in conformity with ancient wisdom. The Dymphna pilgrimage suggests that many people, most importantly the “mentally ill” themselves, have understood for many centuries that parental abuse was the source of mental illness. We may, then, at last be on track.

Taking his actions symbolically, King Damon, Dymphna’s father, wanted to completely own his beautiful child. Narcissistically, Damon saw her as an extension of himself. If she would not give him gratification, she had no right to exist. Indeed, she must not exist.

Such false parental love must be especially troubling to a child: the predator posing as parent, the aggressor as protector. And in a person of overwhelming power, as a parent must appear to a child: an all-knowing, omnipotent giant. A king.

Barbaric as it sounds, an abusive parent is an obvious risk, and probably happens more often than we know or want to admit.

It is surely going too far to account for all of what we call “depression” with childhood abuse. We know this from the outset: narcissism can cause the same symptoms. Damon, for example, is first disconsolate over the death of his wife. The analogy with PTSD tells us shell shock is another source, or at least a trigger for an underlying issue. “Culture shock” also seems capable of causing the symptoms of depression, as anyone with experience as an expatriate knows. One can imagine other causes.

But childhood abuse of some sort seems to be the most common cause.

## **What is to be done?**

Now perhaps we see the problem.

But what is to be done about it? Does this insight help us in any way with treatment?

It does. The legend of Dymphna, and her pilgrimage, is a prescription as well as a diagnosis.

In the dark world of Oriel, in which she was no doubt seen as mad, three figures came to Dymphna's aid: her priest, Father Gerebernus, the court jester, and the jester's wife. These three fled with her.

One might take the jester as another example of madness. Court jesters were nominally lunatics speaking nonsense. Yet it seems a mock lunacy, and so understood: Shakespeare's jesters were unusually quick-witted.

In reality, court jesters were skilled entertainers. They were musicians, comics, jugglers, actors, clowns. A large part of their job was actually to keep the king sane in the truest sense, not delusional about his own powers or situation: to counter any tendencies to narcissism. They were like the Roman slaves who accompanied triumphant generals in their victory parades, whispering in their ear, "remember, you are mortal."

Perhaps there is also here the suggestion that there is some necessary kinship between madness and the arts. But court fools were court artists. The Irish tradition—and Dymphna was Irish—was for kings to keep a bard, a court poet. "Court jester" may be an interpretive gloss on this, substituting a title that would be more understandable to a continental audience.

Her two companions then seem to suggest two options available to Dymphna in her oppression, or to any other victim of family or social oppression. The two helps and guides for the oppressed: religion, Gerebernus; and the arts, the court jester.

We are here, surely, seeing a blazed path to transformation. Note that the two elements are combined, as well, in the legend of Dymphna structurally: it is a narrative, a story, a work of art, and it is a hagiography, a lesson in faith and morals.

And the pilgrimage it suggests to the afflicted is: first, a choice to act morally and heroically, like Dymphna; second, to escape the oppressive environment; third, to seek guidance in religion and the arts; fourth, if necessary, confront the oppressor with defiance.

And such stories as that of Dymphna are our first guides on this path.

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<sup>i</sup> David Warren, "Saint Dymphna, Pray for Us," *Essays in Idleness*,  
<https://www.davidwarrenonline.com/2018/05/22/saint-dymphna-pray-for-us/>; retrieved October 16, 2018.

<sup>ii</sup> Lawrence Lovasick, *St. Dymphna*, Techny, Illinois: Divine Word Publications, 1961, p. 8.

<sup>iii</sup> <https://listverse.com/2014/11/26/10-royal-families-riddled-with-incest/>

<sup>iv</sup> American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*, 5th ed., Arlington: American Psychiatric Publishing, 2013, pp. 669–72.

<sup>v</sup> "Do unto others as you would have them do unto you." It has often been pointed out that this maxim appears almost *vebatum* in the scriptures of all the world's major religions.

<sup>vi</sup> Augustine, *City of God*, Book 14, Chapter 28, Dods trans.

<sup>vii</sup> King James, *Daemonologie*, 1597.

<sup>viii</sup> "Long Term Consequences of Child Abuse and Neglect," Child Welfare Information Gateway, July, 2013, p. 5.  
[https://www.childwelfare.gov/pubPDFs/long\\_term\\_consequences.pdf](https://www.childwelfare.gov/pubPDFs/long_term_consequences.pdf)  
<https://www.cdc.gov/violenceprevention/childmaltreatment/consequences.html>

<sup>ix</sup> A. Silverman, H. Reinherz, R. Giaconia, "The Long-Term Sequelae of Child and Adolescent Abuse: A Longitudinal Community Study," *Child Abuse & Neglect*, 1996; 20:8; pp. 709–723.

<sup>x</sup> Ellen McGrath, "Child Abuse and Depression," *Psychology Today*,  
<https://www.psychologytoday.com/articles/200305/child-abuse-and-depression>



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- <sup>xi</sup> Nils Opel, et al., “Mediation of the Influence of Childhood Maltreatment on Depression Relapse by Cortical Structure: A 2-year Longitudinal Observational Study,” *Lancet* 6: 4, pp. 318-326, April 1, 2019.
- <sup>xii</sup> Maia Salavitz, “How Child Abuse Primes the Brain for Future Mental Illness,” *Time* magazine, February 15, 2012, <http://healthland.time.com/2012/02/15/how-child-abuse-primers-the-brain-for-future-mental-illness/>
- <sup>xiii</sup> There is a prejudice against citing *Wikipedia* as a source, on the grounds that it is not “authoritative.” After all, anyone can post there. However, for this very reason, by its nature, it tends to give a good reflection of the current general consensus in a field. If anyone posts anything outside of this, someone else will quickly edit it out. It cannot be hijacked by any faction with a vested interest. What it is not good for is finding any new or challenging ideas.
- <sup>xiv</sup> <https://www.blueknot.org.au/Resources/General-Information/Abuse-related-conditions>
- <sup>xv</sup> Annie Kolodziej, “Does Child Abuse Predict Poor Mental Health?” *AllPsych*, July 2015, <https://blog.allpsych.com/does-child-abuse-predict-poor-mental-health/>
- <sup>xvi</sup> Judith Carroll, Tara Gruenewald, Shelley Taylor, Denise Janicki-Deverts, Karen Matthews, Teresa Seeman, “Childhood Abuse and Biological Risk,” *Proceedings of the National Academy of Sciences*, Oct 2013, 110 (42) 17149-17153; Rick Nauert, “Childhood Abuse & Neglect Linked to Adult Health Risks,” *Psych Central*, <https://psychcentral.com/news/2013/09/27/child-abuse-neglect-linked-to-adult-health-risks/60011.html>, retrieved August 3, 2018.
- <sup>xvii</sup> Chesley Coulter, Krista Baker, Russell Margolis, “Specialized Consultation for Suspected Recent-onset Schizophrenia: Diagnostic Clarity and the Distorting Impact of Anxiety and Reported Auditory Hallucinations,” *Journal of Psychiatric Practice*, 25:2, March 2019, pp. 76–81.
- <sup>xviii</sup> Open Science Collaboration, “Estimating the Reproducibility of Psychological Science,” *Science*, 28 Aug 2015: 349: 6251; *Reproducibility Project: Psychology*, <https://osf.io/ezcuj/wiki/home/>; retrieved December 10, 2017.
- <sup>xix</sup> Colin Camerer et al., “Evaluating the Replicability of Social Science Experiments in *Nature* and *Science* between 2010 and 2015,” *Nature*, August 27, 2018.
- <sup>xx</sup> Ed Yong, “Psychology’s Replication Crisis Is Running Out of Excuses,” *Atlantic*, November 19, 2018.