

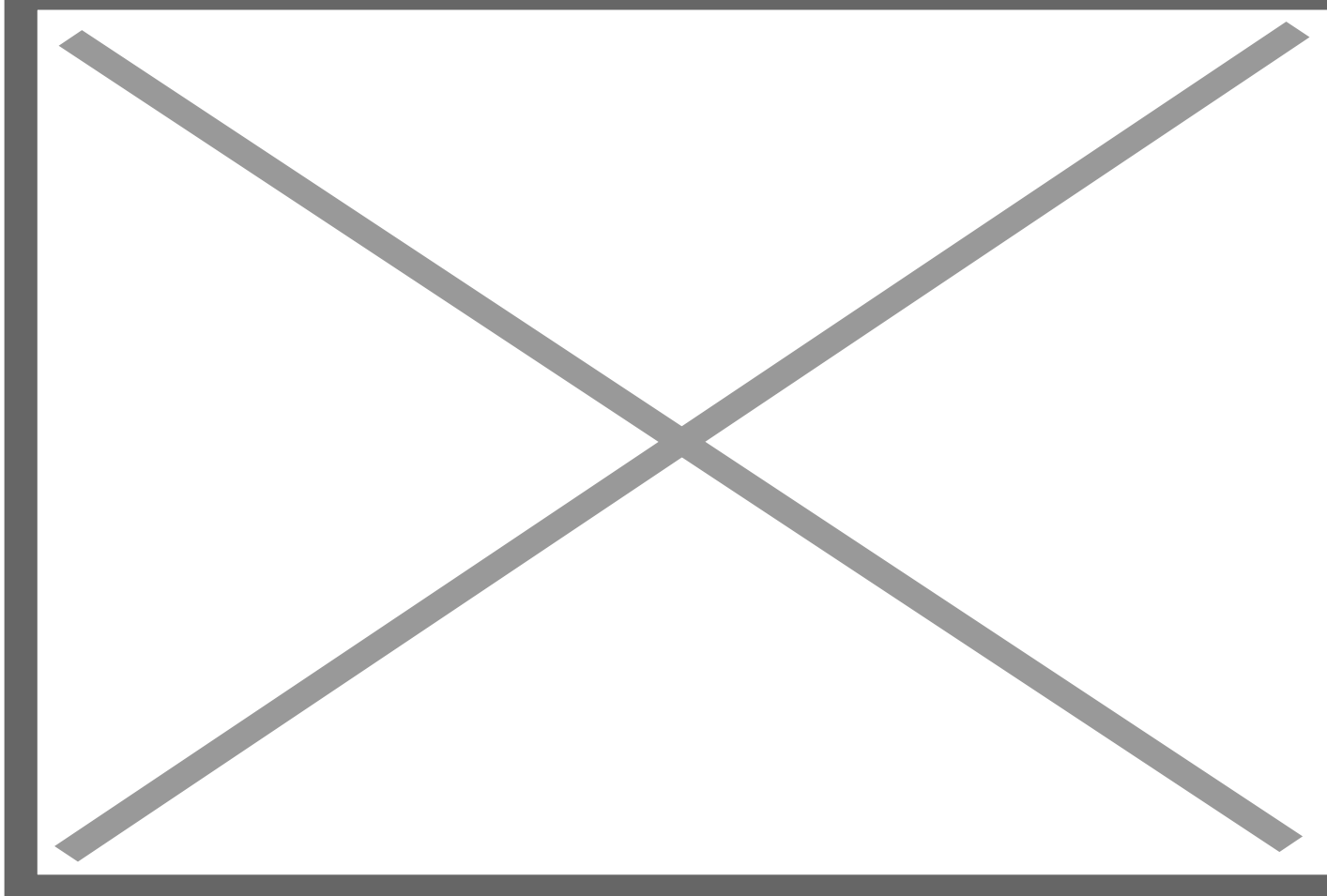
Beyond neurodiversity: The dangers of ‘reducing diversity to brain-based distinctions’

The concept of ‘neurodiversity’ has gained enormous cultural influence in recent years. Computer scientists and ‘techies’ wear the ‘neurodiverse’ label with pride; businesses are building ‘neurodiverse’ workforces; scriptwriters strive to represent and cast ‘neurodivergent’ people. Those framed as ‘different’ have been given a remarkable new lens through which to reimagine that variance.

The sociologist Judy Singer coined the term ‘neurodiversity’ in the late 1990s. Inspired by other emancipatory social movements based on race and gender, Singer used her standing as an autistic person to rally together neurodivergent people. This was partly a response to what Singer called the ‘social constructivist’ view of autism, where the condition was seen as having no solid biological basis. This denied the reality of neurological difference, according to Singer. In reply, she offered up ‘neurodiversity’ in the spirit of biodiversity, in that it recognised and respected natural variance among humans.

The movement quickly gained support via online forums and new social networks. Since Singer’s first use of the term, neurodiversity has widened beyond autism to include people who identify with categories such as attention deficit hyperactivity disorder (ADHD), dyslexia, bipolar disorder, depression and more. It’s come to mean any real mental differences – neither choices nor simply illnesses – that aren’t problems to solve so much as enrichments for society. Neurodiversity has done brilliant work in breaking down social barriers, challenging stigmas, and raising awareness. But it also contains limitations, and these are becoming increasingly prominent as the concept expands into new domains.

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Judy Singer. Credit: Autism Awareness Australia

The main premise of the neurodiversity movement is that society should be robust enough to embrace and celebrate all people, no matter how their brains are 'wired'. That's a laudable goal and shouldn't be tricky for anyone to wrap their head around. Yet since the beginning, critics of neurodiversity have claimed that its mantra of radical acceptance could hinder treatments and interventions for those who are suffering. Embracing neurodivergent thought too enthusiastically, they say, risks distracting from genuine physical, emotional or social needs that require attention.

This debate quickly descends into unhelpful recriminations. But it also distracts from a deeper philosophical problem that neurodiversity must confront as it expands into new territory. Neurodiversity's vision of inclusion, alluring as it is, tends to rely on the idea that neural wiring is at the root of all differences in how humans relate to the world. But reducing diversity to brain-based distinctions can stand in the way of more sensitive and potentially fruitful ways of understanding mental life. In fact, the success of neurodiversity has exposed the glaring lack of any shared vision or sense of solidarity around mental difference that isn't anchored in brain-based accounts. So while we can applaud neurodiversity's ethos of acceptance, we should question its commitment to achieving legitimacy through false 'neuro' certainties.

There is a different way forward, in which we fashion our political advocacy and scientific reasoning not on the brain but the 'mind'. I call this programme 'psydiversity'. Psydiversity rejects the claim that mental states can be cleanly and predictably mapped on to the brain. Instead, it augments the valuable work of neurodiversity by demonstrating that mental processes and the way we understand them change and evolve through history. Indeed, psydiversity holds that the mind and 'human nature' are not unitary things, but are profoundly embedded and even constituted by the society and context in which they appear. That isn't to deny the reality of difference, but rather to situate this reality as part of an unfolding social and historical process.

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If there's one aspect of neurodiversity that's core to its agenda, it's the 'neuro' prefix. The term 'neuro' actually stems from the ancient Greek 'neûron' or the Latin 'nervus', defining nerves or the nervous system. Contemporary neuroscientific approaches have their origins in the early 19th century, when physiologists such as Franz Joseph Gall, Charles Bell, and François Magendie used a combination of human anatomical studies and terrifying animal vivisections to identify the relation between brain, spinal cord and nervous system. By the early 20th century, neurologists had created detailed maps of the brain and nervous system, and had named many distinct conditions such as cerebral palsy and hemiplegia.

It wasn't until the 1990s, though, that the brain sciences began to really assert themselves in other branches of human knowledge. Via new imaging and genomic testing technologies, evidence emerged that differences in human emotion and behaviour could be traced to differences within people's brains. This spawned a number of 'neuro-' prefixes that could be attached to subjects as disparate as 'neuroeducation', 'neuroethics', 'neuroanthropology', 'neuroaesthetics' and 'neurolaw'. The former US president George Bush called the 1990s the 'decade of the brain', while the philosophers Fernando Vidal and Francisco Ortega declared that the neurosciences were leading us to believe that 'we are our brains'.



MRIs were not approved by the FDA until 1984. Credit: Clay Wieland Photography

All this fervour sprang from the belief that brain-based sciences and genetic research could transform society for the better. When the Dutch geneticist Han Brunner claimed that deficiencies in the MAOA gene could be responsible for an increased propensity to violence, this inspired hopes that moral judgments about 'good' and 'bad' behaviour could be transformed into progressive scientific research and treatment. There would be no more 'evil' people, merely malfunctioning brains. If human motivation could be identified at the molecular level, it could also be changed.

From the 1990s, the neuroscientific dream was that unique behaviours and 'mental disorders' could be correlated with brain states and treated accordingly. In reality, though, most psychiatric diagnoses or conditions are not stable or static, don't have simple 'watermarks' in the brain, and are often very difficult to treat. What's more, drug developments have often preceded the refinement of psychiatric categories and, disturbingly, treatments tend to lead to increased diagnosis – the opposite of the neuroscientific fantasy. This was the case with ADHD, where the development of amphetamine treatments coincided with large increases in diagnosis, while rates of depression moved in line with the production of Prozac and other antidepressant drugs.

The disquieting truth is that, once a treatment or medical tool exists, social, financial and political forces tend to push up diagnoses. The *Diagnostic and Statistical Manual of Mental Disorders (DSM)* – the medical textbook that serves as the basis for most real-world psychiatric diagnoses but also most neuroscientific laboratory studies – is by no means an impeccable diagnostic tool, as the psychiatrist Allen Frances and others have argued. Drug companies might tout theories that brain- and drug-based theories will be a panacea for all forms of mental suffering, but we are a long, long way from that becoming a reality.

While this 'neuro' revolution didn't ever come to fruition, it still opened the door for new dreams and aspirations. It was in this context that 'neurodiversity' came into being. While neurodiversity advocates can be critical of mainstream neuroscience and psychiatry, they have also created a curious alliance with these same disciplines. Starting with its reframing of autism, the neurodiversity movement latched on to the scientific legitimacy of both the neurosciences and the *DSM*, without really acknowledging the critiques and other, competing interpretations of human mental life.

It's striking that autism itself is unique in the *DSM*. No other diagnosis spread so rapidly throughout the 1980s and '90s. Most importantly, its expansion had nothing to do with the production of drugs, as in the cases of ADHD and depression. The autism category is something of an anomaly, yet ironically it's this anomaly that sparked the entire neurodiversity movement, which is now growing to encompass an increasing number of other *DSM* diagnoses.



When neurodiversity originated, its dismissal of earlier psychological sciences was very much intentional. As an autistic woman in the 1990s, Singer understandably wanted a clean slate when it came to defining her identity. The dominant discourse around autism often involved blaming mothers for creating the condition in their children, drawing on the work of a number of postwar male psychologists such as Bruno Bettelheim. By the 1970s, a new generation of psychologists argued that these claims were outlandish, because they did not even contain a clear definition of what autism was. Lorna Wing, a psychologist and the mother of an autistic child, then worked tirelessly to correct the conceptual drift by creating a standardised definition of autism as a kind of social and communication ‘impairment’. This was the definition that was solidified in the *DSM* in the 1980s, and which in turn invited genetic explanations.

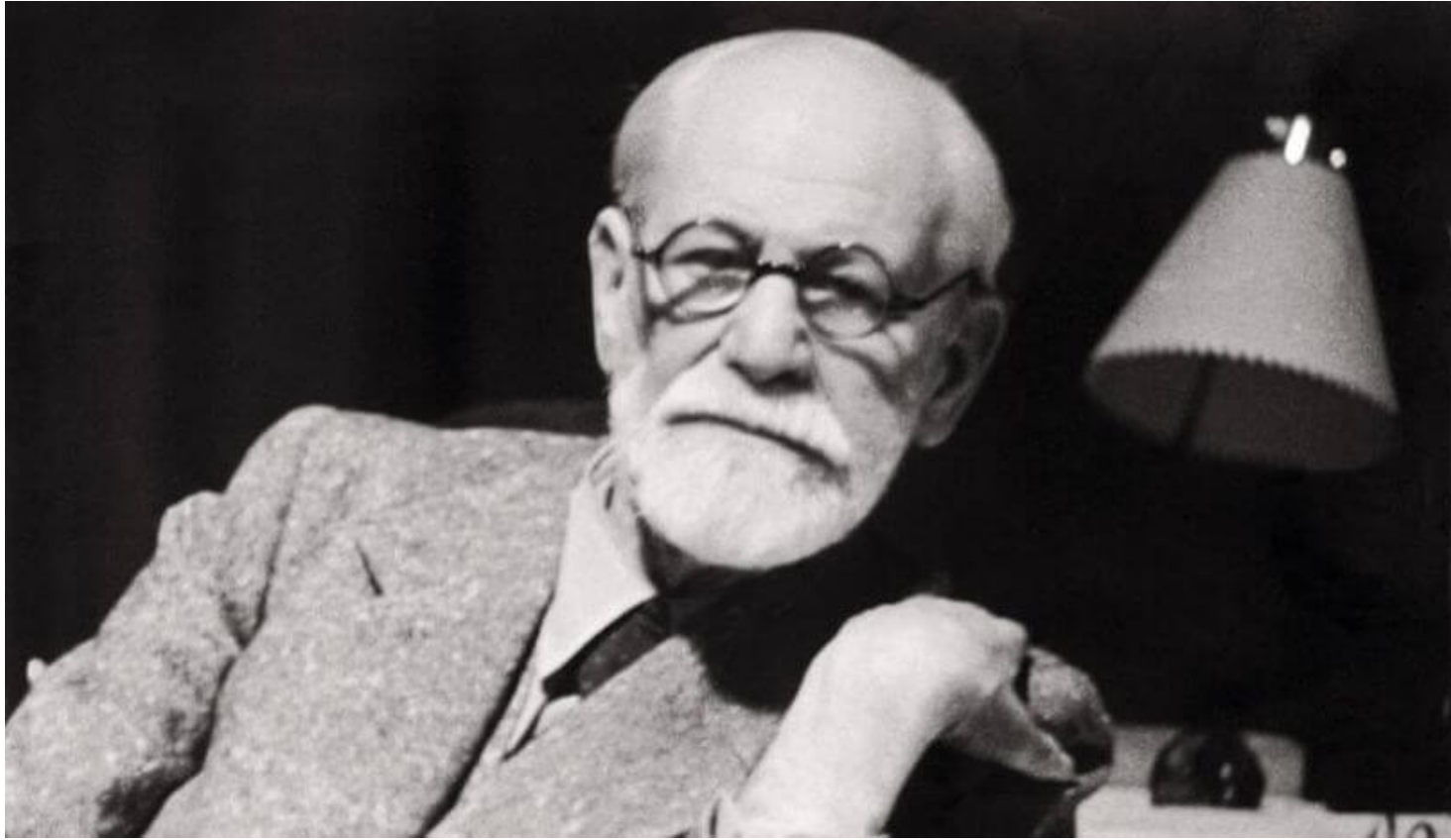
Coming across all these descriptions and definitions in the 1990s, Singer was well placed to make her own claims of the development of her own identity. She didn’t want to adopt former models of psychological development that pathologised mothers and benign psychological differences. Yet she also didn’t want to adopt the label of ‘impaired’. The neurodiversity movement allowed for a new form of identity that was psychologically distinct, but didn’t see its members as lacking in some way.

Political categories are always a response to the conditions in which they arise. Singer sensed that her personal identity was under threat, and so rapidly set up a new framework on which to build a fresh one. As I have argued [before](#), the diagnosis of autism slotted neatly into a neoliberal model of social welfare in the 1990s, where only those with defined social disabilities or ‘impairments’ received any social support. In the UK, the US, Australia and elsewhere, these two factors combined such that autism diagnoses shot up

in line with the destruction of the postwar welfare state. So when Singer advocated for political representation for autistic people in the 1990s, she could do so only because autistic people had *already become* a political class. Singer merely rallied the crowds, and she did so under the banner of neurodiversity.

What's so wrong with brain-based or 'neuro' accounts anyway? All explanations of this sort rest on the premise that the brain gives us access to a scientific reality that can then be projected out on to the world to explain the immensity and range of human experience. This satisfies our craving for absolutes and certainties, and can even be the foundation of solidarity and meaningful identities. Yet human categories are almost always contingent, messy, uncertain affairs. In fact, there are a number of other scientific models and working hypotheses that could help us get a handle on psychological development, although Singer relegated them to the bottom of the class. These are the 'psy' sciences we know today – psychology, psychoanalysis, psychiatry, psychotherapy. Just as 'neuro' has its origins in the Greek for 'nerves', 'psy' has its origins in the Greek for 'psyche', meaning the soul, mind or life.

The 'psy' sciences as we know them today sprang up in the decades either side of 1900, fuelled by Sigmund Freud's 'discovery' of the unconscious. Freud exploded comfortable Western notions of the rational minds steering human history on an upward path to progress Enlightenment. Instead, he posited a theory of unconscious motivation, in which human beings were driven by ingrained, instinctual urges. These principles had a profound influence on educators, bureaucrats and governments across the world.



Sigmund Freud. Credit: El Pais

For most of the 20th century, 'psy' sciences dominated theorisations of the brain and nervous system. The creation of IQ testing in France in 1905 set the scene for the massive expansion of psychological sciences. In the early 1900s, psychological laboratories, institutions and departments began to be established, and psychologists distinguished themselves as a professional group. Compulsory education and the growth of new communication technologies such as film, radio and TV in modern democracies supported this spread. 'Psy' sciences made huge contributions to all theorisations of the self, and of identity, and continue to be influential in the governance of everyday life via social, medical and legal services. For example, the creation of the juvenile court in the UK in 1908 united 'psy' and legal professionals to reframe juvenile crime in terms of psychological motivation rather than moral failing. It encouraged psychological programmes in schools, health centres and social service departments, a model that many other industrialised nations soon followed.

Crucially, earlier 'psy' sciences paid particular attention to how the mind adapted instinctual urges to cope with demands placed upon them by 'civilisation', offering new perspectives on the pressures of industrialisation and modernity. So when neurodiversity advocates turned their back on psychological theories in the 1990s, they turned away from much more than Bettelheim's badly formulated theories of maternal love. A strong adherence to 'neuro' explanations also leaves scant room for wider theories of unconscious motivation – and, in many ways, the social sciences as a whole, to the extent that these seek to identify underlying systems of thought and ideologies that guide human action.

The development of new neuroscientific models in the 1990s, together with the internet and social media technologies, has catalysed new identity politics that destabilise prior 'psy' professional networks and created new models for identity. These are vital developments to be sure, but it would be naive to think that they could replace some of the fundamental principles that have shaped wider understandings of human thought for more than 100 years. It's essential to recognise the value of what the neurodiversity movement has achieved without unwittingly submitting to the rigid aspects of a wholly brain-based 'neuro' society.

Historically, both 'psy' and neurosciences have been mobilised to justify large-scale social injustices in democratic countries, from confinement to forced sterilisation and hormone treatments to 'cure' aberrant sexualities. We must be under no illusions here. However, it doesn't make sense to denigrate one and eulogise the other. Indeed, often it's psychologists taking a 'softer' approach to human motivation that's served to ward off more draconian approaches to brain-based difference. For example, when eugenicists such as Carlos Blacker in the UK equated 'mental deficiency' with social and economic redundancy after the Second World War in order to advocate for sterilisation, it was psychologists such as Neil O'Connor and Beate Hermelin who argued that psychological and social intervention was always preferable.

It's striking that previous critics of 'psy' sciences rarely sought to radically dispose of *all* psychological knowledge. Take forerunners to the neurodiversity movement, such as the 'anti-psychiatry' and 'psychiatric survivors' movements that developed in the 1950s and '60s. They were [critical](#) of how the psychiatric system had pathologised and damaged them, yet remained resolutely opposed to all brain-based or 'neuro' explanations for mental states. This opposition was partly due to a postwar backlash against eugenic or hereditary understandings of mental illness or disability, which were bound up with the Nazis – a pushback that contributed to the proliferation of 'social constructivist' theories of mental states in the late 1970s and '80s via charities, universities and a booming publishing industry. It's testament to how far we have come that neurodiversity advocates such as Singer can embrace even small aspects of neuroscience and genetics as part of a new social movement, let alone radically advocate for brain-based theories.

Anti-psychiatrists knew that the 'psy' sciences served an important role in empowering people, even if they'd been employed poorly in the past. In many ways, the anti-psychiatry movement integrated key psychoanalytic principles by employing historical knowledge to empower and galvanise populations to criticise the practices of psychologists. This was a psychoanalytically and historically informed kind of activism. Instead of discrediting psychological sciences, the philosopher [Michel Foucault](#) and others played psychologists at their own game: 'If you're going to analyse where my identity "problems" came

from,' they might have said, 'then I will analyse where your identity, legitimacy and power also came from.' This was shrewd because it not only unchained the shackles that 'psy' professionals had placed on their own individuality: it also revealed how the psychological sciences wielded power through psychological experts, institutions and policies.

What Foucault called 'historical ontology' – the study of what makes being or becoming possible – asserted the importance of history, and of collective thought, to understanding contemporary minds. In some ways, this was just a highly refined form of self-reflective psychology. What it showed was that the mind is always a historically situated object, regardless of its 'neuro' states. Psydiversity accepts that minds are entangled with the societies around them, and can't be moored to neuroscientific verities – which are, in any event, a byproduct of the time as well. Psydiversity would move us beyond an unhealthy reliance on the knowledge monopoly of the neurosciences, and address the difficulties of stretching neurodiversity to cover all human differences.



Michel Foucault. Credit: NewsBeezer

None of this is to say the 'psy' sciences are perfect, and retooling them to fit our current needs should also involve critically assessing their influence on democracy and society. That influence cannot be overstated.

In many ways, the 'psy' sciences are the cornerstones of modern democracies. Thinkers such as Jean Piaget, Maria Montessori, Susan Sutherland Isaacs, Edward Glover and Anna Freud gave shape to many ideas that have become fundamental to democratic functioning, such as the principles of early education and attempts to understand rather than punish children's misbehaviour. Today, psychiatrists, psychologists, psychoanalysts and psychotherapists have become the footsoldiers of liberal, economically prosperous nations. Through psychological theories, individuals and policymakers alike have learnt to harness human motivations, balancing citizens' democratic freedoms against the necessity of laws and social norms.

Psydiversity aims to rehabilitate the positive features of such methods, without shying away from where they've hit walls in the past. The major problem with 'psy' disciplines isn't necessarily the theories themselves, but their potential to be used as cudgels on behalf of narrow, controlled and regulated versions of the family, society or nation. One of the neurodiversity movement's key achievements has been to expose the illogical nature of many such approaches. Activists such as Steven Kapp and Damian Milton have pointed out, for example, that preventing behaviours such as tics and 'stimming' isn't usually done for the benefit of the individual concerned but to maintain social norms and structures. This is correct, and there's no doubt that the reach of psychological sciences must constantly be kept in check – but psydiversity also makes this possible by internalising a historical self-critique, maintaining a constant awareness of how and for whom knowledge is developed, employed and granted legitimacy.

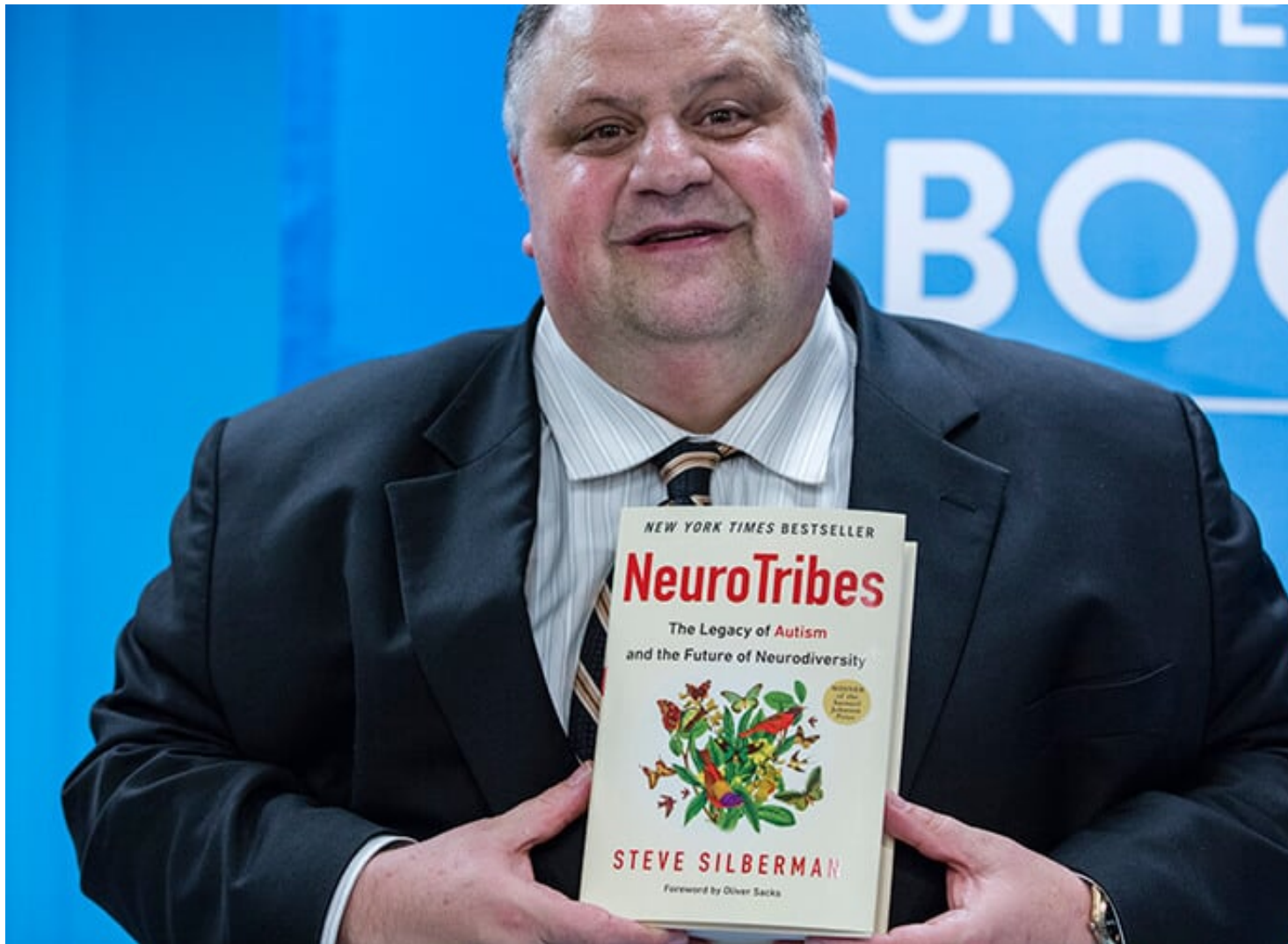
Yet 'psydiversity' doesn't simply skip along to the tune of prior 'psy' models. Rather, it aims to reclaim psychological knowledge for the populations it's supposed to serve. It encourages a radical reframing of the psychological sciences, such that they are both historicised and variegated. Instead of holding them out as seers or sages, psydiversity encourages psychological professionals to acknowledge the scientific foundations of their approaches and to make this clear at every point of practice: from the statistical sciences that support the *DSM*; the remnants of Darwinism and instinct theory that support psychoanalysis; and the computing [metaphors](#) that support the cognitive sciences. It is only by having an understanding of this history that we can hope to change it. Psychology has had, and continues to have, a role in shaping our understandings of ourselves that can't simply be dismissed as we now stand in thrall to the new neurosciences.

In short, psydiversity creates a space for psychology to mediate the dogmatic aspects of contemporary neurosciences. It greatly values neurodiverse perspectives, but recognises that we live in a world that needs to move beyond identity politics and develop new models of the mind. Instead of grounding 'the self' in 'the brain', psydiversity conceives of our minds as being structured by science, yes, but also by law, society and history. Crucially, it acknowledges that psychological and mental suffering is real, exists in many different forms, and often stems from stigmas or threats to one's existence with deep historical origins. It's fruitless to expect neuroscience alone to come to our aid here.

The 'neurodiverse' tag is becoming more common and widely applied. Many contemporary psychological scientists such as the autism researcher Francesca Happé talk casually about the distinction between 'neurotypical' and 'neurodivergent' brains. This has encouraged many debates and discussions about which conditions do or don't qualify as 'neurodivergent'. In turn, this makes researchers such as the former neurobiologist Mo Costandi worry that the legitimising power of the 'neurodiverse' label might

encourage people to avoid treatment or engage in damaging thoughts and behaviours, such as anorexic aspirations. While this has nothing to do with the stated aims of the neurodiversity movement per se, the fact that it has put so much store in locating conditions in the brain clearly affects these narratives.

None of this is to deny the profound sense of solidarity that's developed within the autism community via neurodiversity, which Steve Silberman eloquently described in his [book](#) *Neurotribes* (2015). The fact that the law has changed to provide specific protections for autistic people was absolutely necessary and correct. However, I question whether we really want to see a society in which *DSM*-based 'neurotribes' become the new political and social classes. It seems to me there's a limit to the value that such categories can provide in terms of enhancing all human flourishing.



Steve Silberman, author of "Neuro Tribes: The Legacy of Autism and the Future of Neurodiversity."
Credit: Luiz Rampelotto/EuropaNewswire

As the neurodiversity movement has shown, threats to identity often provoke unifying political responses. However, history teaches us that these threats shift over time, and that both 'neuro' and 'psy' categories

react and change in turn. Nothing is certain now and for all time, not even a brain-based model of autism. Psydiversity encourages us to think about how to support people regardless of their individual or 'neuro' identity. It offers another perspective from which to understand differences among people, and to celebrate them too. For a child recently diagnosed with ADHD, or an adult diagnosed with bipolar disorder, psydiversity will offer another dimension of understanding as to how they arrived at that point.

Just as legal scholars recognise that it's citizens who ultimately enforce any law via the legal system, psydiversity recognises that it's individuals who ultimately interpret and implement information deriving from the neurosciences. That can happen only via the involvement of 'psy' knowledge. If we are to genuinely acknowledge the value of all human life, we must first see the human mind in all its fluidity and complexity as our mediating instrument, rather than a detached, ahistorical object that neuroscience allows us to stand outside of. Psydiversity holds that the first step towards understanding the mind must be self-criticism and self-enquiry. This requires a psychology that's aware of its own history, a psychology that recognises diversity, and a psychology that doesn't just latch on to existing neuroscientific categories. After neurodiversity, we have a responsibility to explore the wider implications of how humans think. The challenge is to do so without losing our minds.

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