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Batman's Animated Brain(s)

Paper presented to the Batman in Popular Culture Conference

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Bowling Green State University

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Introduction

I was in the beginning stages of a project on the social story of the brain (and a neuroscience more broadly), when a Google image search brought me a purchasable [phrenology](#) of Batman, then a Batman-themed [Heart and Brain](#) cartoon of the Brain choosing the cape-and-cowl.¹ A quick search of "Batman brain" yielded something interesting: various pieces on the psychology of Batman (e.g., Langley 2012), Zehr's (2008) work on Bruce Wayne's training plans and injuries, the science fictions of Batman comics in the post-World War II era (Barr 2008; e.g., *Detective Comics, Vol. 1, No. 210, 1954*), going back to the very first appearance of Batman on film in "The Electrical Brain" (Flowthow and Hillyer 1943). And then, from somewhere in my childhood memory I remembered an episode of the *Super Friends* when literal alien brains from Mars took over our heroes and assaulted Earth ("Invasion of the Brain Creatures").

The Dark Mind of the Dark Knight

Much of the analysis of Batman's brain – whether by scholars, writers, or other comic characters – focuses on his psychological make-up. That is, what makes Bruce Wayne psychologically motivated to be The Batman? His childhood trauma is often poised as the answer, the tireless pursuit of "justice" in an attempt to regain control from the trauma of his parents' murders (Sanna 2015).² The same could be said for his nemeses. Madness, psychopathy, and insanity are centered in the corrupted minds of Gotham's ghastliest, some of whom have also had psychological or physical traumas (Langley 2012; Lytle 2008). A psychological reading of the Bat-Universe is much of its pop culture and academic appeal.

Advances in neuroscience allow for another reading. Childhood trauma certainly has lasting psychological impacts; this trauma also has physiological impacts on the brain (Johnson and Blum 2012; Perry 2002). Likewise, severe blunt force trauma to the head has major implications for the brain, and we are learning more about the physical and psychological risks from repeated physical trauma to the head (Schwartz, Jodis, Breen, and Parker 2019; Williams et al. 2018). What is more, the threat of toxins (used by villains and against others in the Bat-universe) is reflected in the science of psychotropic

¹ Thanks algorithms! I had, a few years back, published on representations of deviance and justice in superhero cartoons (Kort-Butler 2012 and 2013), and recorded a [podcast](#) on superheroes' physical and mental trauma.

² See, for example, the cover art by Nick Giordano on *Detective Comics, Vol. 1 No. 457 (1976)*. Batman's head is shown in profile, encasing the scene of the Waynes' murders, young Bruce kneeling between his dead parents and looking skyward while the armed murderer runs into the moonlight.

medications on brain functions (Schaefer et al. 2014), in the neurological damage associated with sustained substance use (Tamrazi and Almast 2012), and in environmental hazards (Lanphear 2015). In other words, chemicals alter the brain for good and for ill. Advances in neuroscience also create tensions between the positive directions for health and healing, and the looming threat of technology consuming the self and free will (Grubler 2017; Vieira da Cunha and Relvas 2017).

But Batman's ties to Gothic tropes (Sanna 2015), Victorian horrors (Reichstein 1998), and, in particular, science fiction oddities (Barr 2008; Brooker 2001) also poise the brain itself as a valuable resource. Bruce Wayne has no superpowers save his wits, just like many of Gotham's best-known rogues. The biological brain is thus vulnerable, and its electro-chemical nature is set against the influences of human-cultural nurturing, technology, and toxins. As such, the brain and its body can be manipulated, again for good or ill, by external forces. Yet the brain whose plasticity makes people vulnerable to such forces is also understood to be, at its core, the seat of the mind, of reason, of self, and of soul – the truth of which is swallowed or revealed by these external forces.

The Brain and the Bat

Images of and references to the “brain” have come to pervade popular culture in at least two ways: as a means to represent “scienciness,” and as central to human will, well-being, and behavioral wiring. The former connects to the technological ethos of our culture, the latter to our Enlightenment-rooted ethos of understanding ourselves through reason and scientific means. One could argue the roots of modern neuroscience, particularly as absorbed into popular culture, are deeper still: animism, connecting the material and spiritual worlds, what Borck (2016) describes as “soul-catching.” That is, the material aspects of the brain seen through literal or virtual dissection are used to understand the intangible aspects of intellect, personality, and motivation.

Batman, too, may be viewed dualistically. Wainer (2014), exploring the soul of the Dark Knight, highlights the man with a “rational mind committed to scientific detection of crime” on the one hand, and the liminal creature with an “animal instinctiveness, relentlessly focused on the pursuit of criminals” (p. 45) on the other hand. Batman, Wainer contends, appeals to the human need to “view the world in a manner that transcends the material” (p. 165).

Here the two meet: Batman as heroic but unpowered cultural icon and the brain as anthropological icon. The brain has grown into (or maybe was never far from) a popular cultural icon, “an exceptional organ blessed with extraordinary abilities” (Thornton 2011, p. 32). Brain health is associated with one's true self, while dysfunction is usurpation of the self. The way a society comes to frame and understand the brain's functions is tied to how we understand identity and social structure. Consider, for example, America's frontier mythos; the rugged individual fighting the forces of nature to achieve their full destiny, the explorer moving through dark spaces to find wealth or truth. Applied to the brain, the focus has become learning more about ourselves by looking inward, improving ourselves by training our brains, while supporting the social structures (e.g., political economy) that arise from manifest destiny (Thornton 2011). And we can see this frontier mythos embodied in Batman narratives, the lone crime-fighter wrestling with his mission to spare others trauma, moving through dark spaces to find truth and justice (Morrison 2012; Wright 2008).

Animated Brains

In this project I stepped away from the psychological explorations of the Bat-universe and focused on the ways in which the brain itself is manifested. Bruce Wayne, of course, has no superhuman powers like his Justice League counterparts, but he is nonetheless exceptional. Throughout his 80-year history, Bruce Wayne – as Batman – *solves problems* of all sorts, in all kinds of places, in all

kinds of situations (Weldon 2016). In the [1943 Batman live-action serial](#), he must confront “The Electrical Brain” that turns people into zombie slaves of the villain. For the first time outside the pages of the comic books, Batman’s detecting skills were showcased, and his human brain triumphs. From this point forward, the stage is set for Batman on-screen as a problem-solver and detective, with superpowered hero serials (e.g., Superman) offering subtle contrasts. The animated Batman series – in all their forms – are rooted in this same context.

Why the animated series? The animated incarnations of Batman, beginning in the 1968 series *The Batman/Superman Hour*, coincide with rapid growth in neuroscience and technological abilities to explore and “see” the brain in newly intricate ways. The 1990’s “[Decade of the Brain](#)” overlaps neatly with arguably the most important animated incarnation, *Batman: The Animated Series* and the related series in that universe. In the decades since, there has been increasing infiltration of brain imagery in medicine and in pop culture via CT scans, PET scans, MRIs, and fMRIs. The sophistication of computer-enhanced models of colors popping and morphing in brain regions echoes cartoon representations. While comic book renderings certainly capture the essence of technologies, the animated series present the opportunity to see the brain-in-live-action. In fact, dealing with these technologies necessitates a reckoning with the science fiction aspects of the Batman legacy prominent in the 1940s and 1950s (Barr 2008), as well as with the tech-noir (Meehan 2008) aspects of science fiction more generally.

Methods

We now have over 50 years in the animated Bat-universes, starting with the 1968 series, 1977’s *The New Adventures of Batman*, the incarnations of the *Super Friends* in the 1970s and 1980s (1973-1986), the interlocking universe of *Batman: The Animated Series (BTAS)*, *The New Batman Adventures (TNBA)*, *Batman Beyond*, and *Justice League/Justice League Unlimited* (1992-2006), and 21st Century offerings that coincided with the Nolan movie franchise, including *The Batman* (2004-2008), *Batman: The Brave and the Bold (BTBTB)*, 2008-2011), and the less well-received *Beware the Batman* (2013-2014). All shows, with the exception of *The New Adventures of Batman* and *Beware the Batman*, are available on the [DC Universe](#) streaming site.

To build a “set list” of episodes to analyze, I read fan wiki pages, primarily catalogued at [Fandom](#) to gain a sense of plots and characters included in each episode. Where information was lacking, I also searched [IMDb](#) listings and occasionally Wikipedia entries for DC animated series. On these pages, I looked for key terms (e.g., brain, mind, IQ), prominent character names, and relevant images (e.g., neuro-technology, skulls). Once on the DC Universe site, I also skimmed episode summaries and checked content if wiki information was unclear. If the episode did not include Batman himself or broad references to the brain or mind, it was excluded from the set list. In total, I fully viewed and coded 77 episodes leading into this portion of the project (see Appendix A).

I used qualitative media analysis (QMA; Altheide and Schneider 2013). The object of QMA is to discover how mediated materials communicate meaning, placing emphasis on descriptive, conceptual, and contextual data. The procedures for data collection, analysis, and interpretation are reflexive, (re)considering observations as the process unfolds and adjusting coding schema to conceptual nuances (Altheide and Schneider 2013). QMA assumes meaning is present in various modalities, such as text, formatting, visual and auditory style, so coding protocols are oriented conceptually. My data collection was guided by a coding protocol that passed through several stages of theoretically- and empirically-driven development, testing, and re-testing.

The final coding protocol was largely open-ended, though I used numeric codes as cues in the coding spreadsheets. For example, brain references could be to the villains themselves (e.g., The Brain), in dialogue, or in images. For each reference, I made notes describing the context (e.g., scene setting, music, visual and sound effects), who made the reference and about whom (in terms of dialogue), a

detailed description of the image (e.g., head only, cranial device, image of brain itself), and any relevant quotes. For each instance, I coded what was either directly said or implied about the brain: nature or nurture; rigid or plastic; strength or weakness; health or illness; as well as whether the brain was a black box, the center of the self, the mind, emotion, imagination, intellect, intuition, reason, and power. Each instance could be coded in more than one category. I watched each episode in full with closed captioning to ensure the accuracy of quoted dialogue, and I paused frequently and replayed segments in order to code for as much detail as possible.

To honor Batman's 80th anniversary celebrated by this [conference](#), in this portion of the project I focused primarily on how brain depictions shaped the Batman mythos; that is, I was interested in how the brain's story intersected with Batman's story. Thus, the overarching goals of the analysis were to frame the brain's appearance in the animated Bat-universe, including human, alien, and technological components, and to determine how these appearances framed the character of Batman/Bruce Wayne/Terry McGinnis.³ Four key themes emerged: mind control; the black box; the brains; and the unconscious conscience. Below, I described each of these themes in turn.

Analysis

Mind Control

The trope of mind control found solid footing in 1950s science-fiction and dystopian fantasies (Seed 2004). Indeed, earlier horror movies, novels, and pulp fiction dramatize mind control, if we think of the mesmerism featured in works like *Dracula* and the [Victorian-age interest](#) with hypnosis and séances. Mind control, brainwashing, and psychic powers certainly found their way into comic books. Combined with space-age technology and neuro-age inventiveness, mind control is also an important plot device in the Batman animated universes.

Holy Brainwaves, Batman!

How to best visualize psychic powers and mind control for an audience? If "brainwaves" are what we produce, then, obviously, other waves can counter our thoughts and/or take over our minds. Oscillating waves with oscillating sound effects were particularly prominent in *Super Friends*: waves from ray guns, satellite dishes, space guitars, skulls, eyes, voices, and foreheads. Waves that were c-shaped, wavy, bolt-like, rippling, or echoing like sonar and radar. In later shows, waves were more often picture or image distortions. Characters deploying psychic waves typically closed their eyes in concentration, touching hands to heads. Characters hit with waves would enter trance-like states – blank stares, rigid movement, erratic behavior – sometimes accompanied with quick wincing or screams of pain, or even be transformed into something else entirely. Explanations, if offered, were vague: "Some force is controlling Batman's mind. I cannot break through."⁴

In the final season of *Super Friends*, Batman tangles with Scarecrow and his use of mind-altering fear-inducing rays.⁵ In the later series, gas and other chemical toxins were a frequent the mind control substance of choice. Gas and toxins – delivered by a variety of means and in a rainbow of colors – were another visual means of exercising control or manipulation. Toxins could render people unconscious,⁶

³ Terry McGinnis is Bruce Wayne's protégé in *Batman Beyond*, taking over the mantle of The Batman.

⁴ El Dorado to Robin, *Super Friends*, "The Case of the Dreadful Dolls"

⁵ *Super Friends*, "The Fear"

⁶ *BTAS*, "I've Got Batman in my Basement"

temporarily insane,⁷ or tap into people's psyches to alter their behavior. Occasional explanations were offered for how these chemicals work. Bruce says he was drugged with "fear toxin," later asking Scarecrow if he cannot handle his own "medicine."⁸ In another situation, a doctor describes a man who had been exposed to gas as "hallucinating wildly due to a massive fear reaction in the amygdala of his brain."⁹

Minds can also be controlled mechanically. Computer-controlled headgear, wiring, microchips, or nanotechnology somehow disrupted biological and psychological controls. Brainiac's miniscule robots enter Bruce Wayne's system and take control.¹⁰ Spellbinder's globe deploys an entrancing light show, which Bruce explains to Terry, "Somehow, this information was fed directly to your brain, and it then played back before your eyes."¹¹ Virtual reality provides another option to annex the mind. Rather than waves, direct interface with computers via head devices and cables introduced the victims or heroes into a visually-manipulated world.

A Controlled Mind

Batman is not immune; that is, he finds himself impacted by mind controls as well as resisting them. In some cases the effects simply wear-off over either distance from the source or over time. In other cases, another hero or person intervenes to either destroy the controlling technology or shake Batman out of it. These various plots see Batman return to himself then quickly return to action.

In the episodes that depict Batman actively resisting the effects of mind control, be it waves, gas, or technology, he draws on his sense of self-control and of self, essentially mind over matter. Inside the Riddler's virtual world, he asserts, "You may control this world Nygma, but I still control myself."¹² Confronting Scarecrow's fear-inducing waves, Batman tells himself, "You've got to close your mind to it."¹³ He physically fights through attempts to disrupt his mind as well: sweaty, gritting his teeth, shaking his head, and forcing himself to overcome obstacles, despite gas-induced hallucinations.¹⁴

When facing these psychological impediments, virtual or hallucinatory, Bruce clings to the Batman. Famously, he growls to one such hallucination: "You are not my father. I am not a disgrace. I am vengeance. I am the night. I am Batman!"¹⁵ In the *Batman Beyond* episode "Shriek," Bruce Wayne is technologically manipulated, hearing voices no one else can hear that encourage him to commit suicide. He is admitted to a mental hospital, with Shriek's device secured under his head bandage. Terry figures it all out, and the closing scene shows the old and the new Batman debriefing:

Terry: Why were you so sure those voices weren't coming from you?

Bruce: Well, first, I know I'm not psychotic.

Terry: I hope your other reason's more convincing.

Bruce: And second, the voice kept calling me Bruce. In my mind, that's not what I call myself.

⁷ BTAS, "The Last Laugh"

⁸ BTAS, "Nothing to Fear"

⁹ BTAS, "Dreams in Darkness"

¹⁰ *Superman: The Animated Series*, "Knight Time"

¹¹ *Batman Beyond*, "Spellbound"

¹² BTAS, "What is Reality?"

¹³ *Super Friends*, "The Fear"

¹⁴ E.g., BTAS, "Dreams in Darkness"

¹⁵ BTAS, "Nothing to Fear"

Peering Inside the Black Box

Of course, Bruce Wayne and Terry McGinnis have thoughts they hide, even repress. In the series – and in pop culture as well as the scientific realm – the mind is often treated as a black box. No one really knows what is going on inside, what we hide in those dark recesses of the brain. Yet science fiction, and increasing scientific reality, allow us to peer inside. Neurological probes and computer equipment lift the lid. For the Batman, they perpetuate the mystery.

Secrets

Technology is useful for unlocking secrets, or at least unwrapping mysteries. In *BTAS*, Dr. Hugo Strange made use of such tech as part of a blackmail scheme, with his “radiopathic monitoring device,” that works by “lowering defenses...the defenses we create to hide the truth from ourselves and others.”¹⁶ Somehow, via interaction with two long electric probes touched to the forehead and Strange’s discomfiting verbal probes, the thoughts in people’s heads are transformed into stylized recordable images. When Bruce Wayne visits Strange’s spa to investigate, he learns Bruce’s secret, despite Bruce actively fighting to suppress the memory linking his parents’ deaths to his transformation into the Batman.

In *The Batman*, Strange is introduced as an employee at Arkham Asylum who has invented a system for entering the criminal mind.¹⁷ Strapped to separate tables, with headbands and electrodes connected to a central computer with screens to monitor what happens, a flip of the switch lights up tall electrical terminals. The minds of Strange and the Joker are connected, invoking a classic horror image. Batman, attached to his own device in the Batcave and watched over by Alfred, enters the fray. Strange gets a taste for Batman’s secret identity, but does not learn it. Similarly, the Riddler employs a self-crafted “lie detector” – a large machine, with skull cap, collar, and cables running to a monitor with EEG style graphics. Riddler straps Batman to the table, using Batman’s lie detector responses as a means of electrocuting a police officer, in hopes he’ll learn Batman’s identity.¹⁸ Batman escapes by using the probing questions against Riddler (particularly, answering “yes” to the question that he is a policeman), rescuing his colleague while protecting his secret.

Dreams and Reality

Technology is an important element for trapping people in their dreams in order to exploit or incapacitate them. Mad Hatter lures Batman into a warehouse, capturing him with a machine that descends from the ceiling. A skull cap, cables, and as the viewer later sees later, extensive medical technology draw Batman into a dreamworld. This dreamworld offers Bruce an alternate life in which his parents survived. Cracks become apparent as he has visions of The Bat, as well as when he draws on his understanding of science, “reading is a function of the right side of the brain while dreams come from the left side. It's impossible to read in a dream.”¹⁹ Psycho Pirate (“a psychic vampire who preys on the emotions of others”) lures three young heroes into dream machines, individualized glass chambers electronically connected through the Pirate’s own chamber. Batman rescues them by placing the headgear on himself to enter the dreamworld, threatening the Pirate: “I’m coming in to show you what

¹⁶ *BTAS*, “The Strange Secret of Bruce Wayne”

¹⁷ *The Batman*, “Strange Minds”

¹⁸ *The Batman*, “Riddled”

¹⁹ *BTAS*, “Perchance to Dream”

a real nightmare is.”²⁰ John Dee (a.k.a Dr. Destiny) gains extraordinary psychic powers from a prison experiment with an “ESP machine” that, when overloaded, could “fry your brain.”²¹ He enters people’s dreams, including the main Justice League heroes, trapping them in an unconscious dream-like “delusional state.” While Martian Manhunter uses his own psychic powers to free each hero from their dreams, Batman (jazzed on triple espresso and actively resisting Dee’s attempts to put him to sleep) tracks down Dee.

Bruce’s awareness of his dark places makes him more invulnerable to these dream traps, especially compared to his compatriots. Despite Hatter’s protest that “No one’s will is strong enough to escape my dream machine,” Bruce’s ongoing struggle with Batman throughout the dream-state exposes his true self and steels his will. With Psycho Pirate, it means settling his mind and controlling his anger, and drawing on that calm resolve to mentally fight his way out. As he approaches John Dee, his determination – his superpower to “never give up” – is fully displayed. Dee chides him, reminding Batman that with close proximity, he’s “able to go into your brain, even if you’re wide awake.” Batman flatly replies, “My brain’s not a nice place to be.”²² Indeed, the episode closes with a drugged Dee humming the tune Batman used to control his own mind, implying Batman’s strong-willed brain was ultimately the more powerful.

The Brains

The brain foes signal enhanced intellect and a variety of powers: brainy aliens and enhanced humanoids and androids, including Dr. Crainum [*sic*], Ultra-Humanite, Gorilla Grodd, Brainiac, The Brain, and Mr. Freeze with his cryogenically-supported head. One might include the Riddler among these foes; though not technologically enhanced, he thrives on supposed intellectual or mental superiority, as well as his technological inventiveness. Across the series, Batman’s interactions with the brain foes typically highlight both his genius and his humanity.²³

Advanced Species & Techno-Foes

Batman has no superpowers, yet alongside his colleagues he confronts aliens, cyborgs, androids, and mutants. His role in these confrontations is nearly always a problem-solving role (he fights, too). Even an aged Bruce Wayne in *Batman Beyond* supports Terry McGinnis’ Batman from the tech hub in the Batcave. In *BTBTB*, which frequently features hero team-ups across place, space, and time, Batman functions as team leader and strategist (Roman and McAllister 2007).

When Dr. Crainum aims the rays of his “mind machine” at himself in *Super Friends*, his head grows to an enormous size, quite alien-like, and he has telekinetic powers. The Super Friends get the call for help; according to Batman, stopping a being with “incredible mental powers” is a job for him, Robin, and Wonder Woman. Batman and Robin eventually rescue Wonder Women from the machine’s transformative power, track down the professor, and then trick him, hitting him with rays to change him

²⁰ *Batman: The Brave and the Bold*, “Inside the Outsiders”

²¹ *Justice League*, “Only a Dream, part 1”

²² *Justice League*, “Only a Dream, part 2”

²³ This is not as clear in *Super Friends*. The team usually works different angles of a problem, but not always in ways that align with their abilities and powers. For example, in the episode mentioned in the introduction (“Invasion of the Brain Creatures”), Batman and Robin are sent to Mars while Superman stays on Earth. Across the years of programming, Batman’s role in team-ups becomes more refined.

back. "It's not a super-intellect that's important," offers Wonder Woman, and Batman responds, "It's how you apply it."²⁴

Justice League provides the richest contrast with other superpowered heroes. Batman is part Holmesian detective, part shadow operative, part IT support. He outsmarts Ultrahumanite, Joker, and Lex Luthor through mental – but not psychic – manipulation by knowing what buttons to push. When Brainiac attacks Darkseid's home world, and Darkseid asks the League for help – a ruse of course – the League eventually has to take a stand against an empowered Brainiac.²⁵ As the others fight Brainiac's drones, Batman takes up a position to hack the mainframe controlling Brainiac's systems, eventually smashing it with his fists. When Lex Luthor uses the android Amazo to mimic the heroes' powers, he can take nothing from Batman. Batman works this angle: "It's a package deal. You get our strengths but you also get our weaknesses."²⁶ In this case, Batman imprints his strength: a sense of justice that overcomes Luthor's inputs. While the other heroes are imprisoned and Luthor attempts to download his own brain into an android, it is Batman who follows the clues linking Luthor to the Cadmus conspiracy. It is Batman's humanity – his status as "part-timer," as "guard of the guardians" – that foils both the conspiracy and the advanced technology meant to dominate and destroy.²⁷

Riddles & Ice

The Riddler (a.k.a. the aptly named Edward Nygma) and Mr. Freeze tout their genius. The Batman is just another challenge. Nygma's evolution into the Riddler in *BTAS* is rooted in lack of compensation/recognition for his intellectual property. He soon discovers the intellectual challenge posted by Batman: "My, my. Can we actually have a brain beneath that pointy cowl of ours?" Batman also seems excited to solve riddles and work his way through the maze: "I can't wait." In solving the final riddle to free the hostage, Batman quickly answers: "That's simple: the human brain. It has billions of optic and auditory nerves, four lobes and two hemispheres, and it's the only thing Edward Nygma respects."²⁸ Anticipating Riddler's failure to follow his own rules, he devises an escape plan that uses the Riddler's own tech against him. Thought not in the same universe, in the "game" between The Riddler and *The Batman*, Riddler talks about Batman being "inside his brain" as Batman solves riddles and traces his location. The tech angle is more prominent, and when Batman finds the massive space under Riddler's lair is full of circuitry, cable, and even vessels of green fluid, he observes: "We *are* in Riddler's brain. His men must be uploading the stolen data."²⁹ Again, Batman manages to beat Riddler at his own game, highlighting his own intellectual prowess.

Freeze's story is complex. He is a genius, and though he needs a specialized suit in order to survive, his glass-encased head illustrates the point. The *TNBA* episode "Cold Comfort" picks up where *BTAS* and the animated movie *Batman & Mr. Freeze: Sub-Zero* left off: Freeze is on a quest to destroy everything that people find valuable in order "to steal hope." His body has deteriorated so much he is looking for an alternative technology for housing and carrying his head, forcing scientists to work for him in a lab fitted with neurological and medical equipment. The doctor describes his "brain wave activity [as] completely normal." Freeze replies, "normal is hardly a word I would use to describe myself." His head ends up on a robotic spideresque form. The contrast with Batman's own traumatic experiences is subtle, but clear: Freeze first attacks the Batfamily in Wayne Manor, then aims to blow up Gotham,

²⁴ *Super Friends*, "The Mind Machine"

²⁵ *Justice League*, "Twilight"

²⁶ *Justice League*, "Tabla Rasa"

²⁷ *Justice League Unlimited*, "Panic in the Sky" and "Divided We Fall"

²⁸ *BTAS*, "If You're So Smart, Why Aren't You Rich?"

²⁹ *The Batman*, "Riddled"

things that Bruce Wayne/Batman value most. Yet the physical trauma, on top of the emotional trauma, has completely fractured Freeze's – but not Bruce's – mind, depicted when we see Freeze's head reflected in the glass fractured in his fight with Batman.

An Unconscious Conscience

Injured

In *Batman Beyond*, we meet an aged Bruce Wayne whose body is somewhat broken, but not his sharp mind, despite the all the hits to his head. Zehr (2008) described the high level at which Batman has sustained physical injuries in general, and head injuries in particular (see also Roberson, 2008). If there were ever a case for chronic traumatic encephalopathy, Bruce Wayne is it. Blow-by-blow, tossed into walls and pavement, falling, and crashing, the Batman of the animated series should just be plain wrecked. Rarely in the shows is he even rendered unconscious, let alone unmendable. Falling unconscious usually results in Batman falling into the clutches of a nemesis, but he regains consciousness with his wits about him, able to figure a way out of the situation.

A few times, he *is* broken. His first encounter with Bane in *The Batman* is a nearly deadly fight.³⁰ Alfred retrieves Batman and nurses him to health. In *BTAS*, Batman limps to Dr. Leslie Thompkins, a long-time Wayne family friend. He listens to neither of them regarding rest (or retirement). In fact, after losing his vision due to a concussive explosion in one episode, Bruce coaxes Leslie into augmenting his cowl with sonar technology interfacing with his brain to allow him to “see.”³¹ In the very few episodes where Bruce forgets who he is, he does not forget what he is. Muscle memory allows him to keep fighting and the nagging sense of duty haunts his motivations. His essence remains intact deep in his mind. Perhaps this is what we hope for people affected by brain trauma and degenerative brain diseases who become very different than the person we knew – that locked in their brains, they are still themselves.

Essence

Batman Beyond tackles this idea. A long dead tech entrepreneur, whose memory was saved on a computer drive, manages to invade the technology holding him, enter the web, and begin taking-over the entire network.³² He manages to download himself into Terry's advanced Batsuit while he finalizes his scheme to download himself into his unwilling grandson's body, revealing his true sociopathy. The lab hits the tech touchstones: large screen with brain images, a modified MRI, circuits lighting up and changing color as transformations happen. Terry ultimately manages to stop the process and the greedy entrepreneur regresses and is deleted into oblivion. Terry also learns the person – mind and body – in the Batsuit is what makes the Batman, not the technology.

The point is made microscopic in *BTBTB*, when Aquaman and Atom have to travel to Batman's brain itself to combat the technovirus he acquired from fighting Chemo.³³ On the outside, Batman pushes himself to his physical limits – never quitting in his quest to stop Chemo, solve the mystery, and capture The Brain. “My body grows weaker with each passing moment. Only the thought of the destruction that walking chemical spill will wreak keeps me focused.” On the inside, the other heroes do battle, and when Batman's brain is finally freed he easily triumphs over The Brain.

³⁰ *The Batman*, “Traction”

³¹ *BTAS*, “Blind as a Bat”

³² *Batman Beyond*, “Lost Soul”

³³ *BTBTB*, “Journey to the Center of the Bat!”

And what do you need if you are a villain who wants to build a Batman? Thunderbolts plus supercomputers may allow you to extract heroes' powers and drain their "mental faculties" into lifeless forms. But in Batman's case you get a Creature of the shadows, or when combined with Superman and Wonder Women, Batman's *head* perched on a powerful body.³⁴ DNA plus trauma may get you a Terry McGinnis, but it does not quite get you Bruce's "magnificent brain" or his alter-ego.³⁵ Brain and body scans, robotics, and artificial intelligence may get you a machine that, until its evil programming kicks in, moves and thinks and believes like Batman.³⁶ If that machine also extracts from its programming a bit of Batman's values, it may even approach catching a bit of his "soul." These various attempts to build a Batman always fall short of perfection; instead, they serve to emphasize the essential elements of the character.

Batman's Brain as Pop Cultural Icon

Images of and encounters with the brain in the Batman animated series served three primary purposes. First, the technological aspects (alien or human) of brain waves, brain scans, and dream machines enriched the scientific, science fiction, and tech noir elements of the storylines. After all, technology and detective have the same Greek/Latin roots (Meehan 2008, citing Rickman). Technology in the series makes brains stronger or submissive, visible or veiled. The technology may be designed for soul-catching, but in the case of the Batman it is never soul-capturing.

Second, references to and encounters with the brain elevated both Bruce Wayne's intellectual superiority and Batman's unyielding mental determination. The hero's brain and the mind it contains is resilient (Rosenberg 2008), emphasizing those broader cultural touchstones of individualism and self-actualization as scientific and moral project (Thornton 2011). Batman wholeheartedly agrees with Wonder Woman's sentiment: "Real education is learning how to get along with people, and how to use your brains and abilities to accomplish things by yourself. To contribute something to society, to your fellow man."³⁷ What makes Batman heroic is not the belt or the suit, but Bruce Wayne's (and Terry McGinnis's) mental and physical training, the ability to focus his thoughts, to think on his feet (literally), and to outwit and outmaneuver any opponent.

Third, these storytelling elements and imagery emphasized the hero's human-ness and his humanity. Over the course of 50 years, the animated Batman steadfastly remains more human than any other major hero in the lexicon, and more human than any technology or artificial intelligence he either deploys or confronts. Bruce/Batman is more than the sum of his brain's biological, social psychological, or even technological inputs. Yet he is vulnerable. The Jekyll-and-Hyde theme threads through the episodes, particularly those balancing dream and reality states, memory loss, and mind control (Reichstein, 1998). Bruce's Hyde, of course, is not a villain. But like Hyde, Batman is an expression of Bruce's true nature, one that leaves no puzzle unsolved, never gives up, and tempers his version of justice with mercy.

This may be an idealized form of the Batman who has an 80-year history of light, humor, mystery, and darkness (Kimmel 2008). But this is also the Batman kids since the 1960s have first learned to idolize. Writing particularly about the legacy of *BTAS*, Weldon (2016: 188) commented on this powerful pop cultural icon: "[C]hildren once again saw in Batman something that resonated, something true and enduring that spoke to them of inner strength that made his astonishing feat of self-rescue possible."

³⁴ Super Friends, "The Super Friends Meet Frankenstein"

³⁵ *Justice League Unlimited*, "Epilogue"

³⁶ *BTAS*, "His Silicon Soul"

³⁷ *Super Friends*, "Professor Goodfellow's G.E.E.C."

References

- Altheide, David L., and Christopher J. Schneider. 2013. *Qualitative Media Analysis*, 2nd ed. Los Angeles: Sage.
- Barr, Mike W. 2008. "Batman in Outer Space." Pp. 127-136 in *Batman Unauthorized: Vigilantes, Jokers, and Heroes in Gotham City*, edited by Dennis O'Neil with Leah Wilson. Dallas: Benbella Books.
- Borck, Cornelius. 2016. "Animating Brains." *Medical History* 60: 308-324
- Brooker, Will. 2001. *Batman Unmasked: Analyzing a Cultural Icon*. London: Bloomsbury.
- Flothow, Rudolph C. (producer), and Lambert H. Hilyer (director). 1943. *Batman* [motion picture serial]. United States: Columbia Pictures.
- Grubler, G. 2017. "Brain, Art, Salvation. On the Traditional Character of the Neuro-Hype." Pp. 178-197 in *The Human Sciences after the Decade of the Brain*, edited by Jon Leefmann and Elisabeth Hildt. London: Academic Press.
- Johnson, Sara B., and Robert W. Blum. 2012. "Stress and the Brain: How Experiences and Exposures Across the Life Span Shape Health, Development, and Learning in Adolescence." *Journal of Adolescent Health* 51: S1-S2.
- Kimmel, Daniel M. 2008. "The Batman We Deserve." Pp. 157-170 in *Batman Unauthorized: Vigilantes, Jokers, and Heroes in Gotham City*, edited by Dennis O'Neil with Leah Wilson. Dallas: Benbella Books.
- Kort-Butler, Lisa A. 2012. "Rotten, Vile, and Depraved! How Children's Superhero Cartoons Explain Criminal Behavior." *Deviant Behavior* 33: 566-581.
- Kort-Butler, Lisa A. 2013. "Justice League? Depictions of Justice in Children's Superhero Cartoons." *Criminal Justice Review* 38: 50-70.
- Langley, Travis. 2012. *Batman and Psychology: A Dark and Stormy Knight*. Hoboken, NJ: John Wiley & Sons.
- Lanphear, Bruce. 2015. "The Impact of Toxins on the Developing Brain." *Annual Review of Public Health* 36: 211-230.
- Lytle, Paul. 2008. "The Madness of Arkham Asylum." Pp. 109-120 in *Batman Unauthorized: Vigilantes, Jokers, and Heroes in Gotham City*, edited by Dennis O'Neil with Leah Wilson. Dallas: Benbella Books.
- Meehan, Paul. 2008. *Tech-Noir: The Fusion of Science Fiction and Film Noir*. Jefferson, NC: McFarland & Company.
- Morrison, Grant. 2012. *Supergods*. New York: Spiegel & Grau.
- Perry, Bruce D. 2002. "Childhood Experience and the Expression of Genetic Potential: What Childhood Neglect Tells Us about Nature and Nurture." *Brain and Mind* 3: 79-2002.
- Reichstein, Andreas. 1998. "Batman – An American Mr. Hyde?" *Amerikastudien / American Studies* 43: 329-350.
- Roberson, Chris. 2008. "Why Doesn't Bruce Wayne Retire Already?!" Pp. 99-108 in *Batman Unauthorized: Vigilantes, Jokers, and Heroes in Gotham City*, edited by Dennis O'Neil with Leah Wilson. Dallas: Benbella Books.
- Roman, Zachary, and Matthew P. McAllister. 2012. "The Brand and the Bold: Synergy and Sidekicks in Licensed-based Children's Television." *Global Media Journal* 12: 1-15.
- Rosenberg, Robin S. 2008. "What's Wrong with Bruce Wayne?" Pp. 145-156 in *Batman Unauthorized: Vigilantes, Jokers, and Heroes in Gotham City*, edited by Dennis O'Neil with Leah Wilson. Dallas: Benbella Books.
- Sanna, Antonio. 2015. "Batman: Gothic Conventions and Terror." *Popular Gothic*, 2 (2): 33-45.

- Schaefer, Alexander, Inga Burmann, Ralf Regenthal, Katrin Arélin, Claudia Barth, André Pampel, Arno Villringer, Daniel S. Margulies, and Julia Sacher. 2014. "Serotonergic Modulation of Intrinsic Functional Connectivity." *Current Biology* 24: 2314-2318.
- Schwartz, Joseph A., Christopher A. Jodis, Kasi M. Breen, and Brittnee N. Parker. 2019. "Brain Injury and Adverse Outcomes: A Contemporary Review of the Evidence." *Current Opinion in Psychology* 27: 67-71.
- Seed, David. 2004. *Brainwashing: The Fictions of Mind Control*. Kent, OH: Kent State University Press.
- Tamrazi, Benita, and Jeevak Almast. 2012. "Your Brain on Drugs: Imaging of Drug-Related Changes in the Central Nervous System." *Radiographics* 32: 701-719.
- Thornton, David Johnson. 2011. *Brain Culture: Neuroscience and Popular Media*. New Brunswick, NJ: Rutgers University Press.
- Vieira da Cunha, R., and Relvas, J. B. 2017. "Who's Afraid of the Big Bad Neuroscience?" Neuroscience's Impact on Our Notions of Self and Free Will. Pp. 24-41 in *The Human Sciences after the Decade of the Brain*, edited by Jon Leefmann and Elisabeth Hildt. London: Academic Press.
- Wainer, Alex M. 2014. *Soul of the Dark Knight: Batman as Mythic Figure in Comics and Film*. Jefferson, NC: McFarland & Company.
- Weldon, Glen. 2016. *The Caped Crusade: Batman and the Rise of Nerd Culture*. New York: Simon & Schuster.
- Williams, W. Huw, Prathiba Chitsabesan, Seena Fazel, Tom McMillan, Nathan Hughes, Michael Parsonage, and James Tonks. 2018. "Traumatic Brain Injury: A Potential Cause of Violent Crime." *Lancet Psychiatry* 5: 836-844.
- Wright, Bradford C. 2001. *Comic Book Nation: The Transformation of Youth Culture in America*. Baltimore: Johns Hopkins University Press.
- Wright, John C. 2008. "Heroes of Darkness and Light." Pp. 181-196 in *Batman Unauthorized: Vigilantes, Jokers, and Heroes in Gotham City*, edited by Dennis O'Neil with Leah Wilson. Dallas: Benbella Books.
- Zehr, E. Paul. 2008. *Becoming Batman: The Possibility of a Superhero*. Baltimore: Johns Hopkins University Press.

Appendix A.

Series

The New Adventures of Batman

Episode

Bite-Sized

Super Friends

Professor Goodfellow's G.E.E.C.
 The Balloon People
 The Menace of the White Dwarf
 The Brain Machine
 The Mind Maidens
 Wanted: The Super Friends
 The World's Deadliest Game
 Revenge on Gorilla City
 Swamp of the Living Dead
 Invasion of the Brain Creatures
 The Super Friends meet Frankenstein
 Rock & Roll Space Bandits
 Around the World in 80 Riddles
 Revenge of Bizarro
 Mxyzptlk's Revenge
 Prisoners of Sleep
 The Wrath of Brainiac
 The Case of the Dreadful Dolls
 The Village of the Lost Souls
 The Fear

Batman: The Animated Series

Nothing to Fear
 The Last Laugh
 The Forgotten
 Be a Clown
 I've Got Batman in my Basement
 Prophecy of Doom
 Mad as a Hatter
 Dreams in Darkness
 Perchance to Dream
 The Strange Secret of Bruce Wayne
 His Silicon Soul
 If You're So Smart Why Aren't you Rich?
 Joker's Wild
 Paging the Crime Doctor
 What is Reality
 Blind as a Bat
 Make 'em Laugh

The New Batman Adventures

Holiday Knights
 Cold Comfort
 Never Fear

	Cult of the Cat
<i>Superman: The Animated Series</i>	Knight Time (Batman crossover episode)
<i>Batman Beyond</i>	Golem Meltdown Shriek Spellbound Payback Lost Soul Mind Games The Last Resort Hooked Up
<i>Justice League/ Justice League Unlimited</i>	The Brave & the Bold, part 2 Injustice for All part 1 Injustice for All part 2 Twilight part 1 Twilight part 2 Tabla Rasa part 1 Tabla Rasa part 2 Only a Dream part 1 Only a Dream part 2 Secret Society part 2 For the Man Who Has Everything Epilogue Panic in the Sky Divided We Fall Dead Reckoning Alive! Destroyer
<i>The Batman</i>	Traction Q & A Riddled Strange Minds A Dark Knight to Remember
<i>Batman: The Brave & the Bold</i>	Journey to the Center of the Bat! Mayhem of the Music Meister! Inside the Outsiders!