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The Human Shell: The Iron Man Armour as an Agent of Heroism

The figure of the superhero represents a form of hypertrophic modern heroism. It originated in US-American comics in the late 1930s or the socalled Golden Age of Comic Books, which gave birth to famous characters like Superman, Batman, Wonder Woman or Captain America, each owned by their respective publishing companies and written and drawn by a wide variety of creators over the decades. The growing readership of the comics today is based on the success the superheroes have had in another medium: the two biggest publishers, DC and Marvel, operate under the auspices of hugely successful global enterprises (Disney in the case of Marvel, Time Warner in the case of DC) that own the licenses to the characters, turning them into cash machines in film, TV, and related advertising and merchandise. The Iron Man movies (2008, 2010, 2013) with Robert Downey Jr. in the titular role are the foundation on which Marvel built its movie- and TV-empire.

As a comic character, Tony Stark aka Iron Man first appeared in March 1963 (cover date of Tales of Suspense 39), in the middle of the cold war.1 His first origin story links his heroism to that context; it is one in a long line of American narratives dealing with men returning from war zones as cripples unable to readjust to society. Tony Stark, brilliant engineer, weapon manufacturer and head of Stark Industries, gets grievously injured and abducted by enemy guerillas during a weapon test in Vietnam. Their leader Wong-Chu orders Stark to work for them. Pretending to do Wong-Chu's bidding, Stark and his fellow prisoner of "the reds" (Tales of Suspense 39, 1963), Ho Yinsen, a world-renowned physicist, in secret build a suit of armour.2 Its centerpiece is a magnetic chest plate intended to stop the shrapnel Stark was hit with during the attack from moving towards his heart. With the help of the machine, Stark manages to escape; however, during the escape attempt, Yinsen sacrifices his life to save Stark's by distracting the enemy while the suit is charging. After taking revence on Wong-Chu and his helpers, Stark returns to the US, where he finds himself not fitting into society anymore. That allows him to take on the identity of a superhero working outside ordinary law enforcement. Forced to wear the magnetic chest plate at all times, Stark decides to become the superhero Iron Man, fighting to protect the weak.

Stark's particular brand of heroism is fundamentally related to the suit of armour he wears. In that sense, the 'superheroism' of this "modern knight in shining armor"3 is comparable to other forms of heroism where the hero is mainly defined through the use of certain armaments, such as medieval knight-heroes' swords or lances, shields and suits of armour. Stark is not the only superhero who fits into that category: the relationship between the hero and his weapon(s) is central in both superhero comics and movies in general. Captain America, now one of the most famous superheroes worldwide due to his inclusion in the so-called Marvel Cinematic Universe, is for example unimaginable without his shield, at first vaguely 'medieval' in shape - the weapon is passed on when the heroic identity gets taken up by a successor.4 Some superheroes are even named after their weapons, for example DC comics' Green Arrow that became known recently because of the eponymous TV show Arrow (2012). Some heroes' weapons are their bodies themselves, bodies that are shown to be superior to those of 'normal' human beings in a multitude of ways, be it because they are of extraterrestrial origin (with Superman as the archetype of this type of superhero), because of genetic mutations (like Marvel's X-Men) or technical manipulations (for example DC's Cyborg).

In the case of Iron Man, those three possible relationships of the superhero to his weapon seem folded into one – his heroism is inseparable from his weapon; he is named after said weapon; said weapon is an essential part of his own body. This paper examines different aspects of Iron Man's heroism and its relation to the 'heroic object'. The first step is an analysis of the materiality of the suit as it is described in comics and movies, which is followed by an explication of the geopolitical context(s) in which Iron Man is active, contexts that shape the character down

to his name. Thirdly, the discourse of identity as mask and related questions of social responsibility and individual freedom are taken up; lastly, the erosion or endangering of masculinity in narratives revolving around the "living high-tech weapon" Stark will be discussed.

Iron, Titanium or Plastic? The Materiality of the Suit

As Stark becomes a hero the very moment he encloses himself in his suit of armour, his heroism is linked to technology - he is a kind of 'technological hero' as opposed to one possessing innate superpowers.6 The suit is a medium of heroic agency; it is the quintessential object that renders Stark's heroic action possible in the first place. His armour as the sublime object or agent of his heroism at the same time fulfills the function of a prosthesis, as the magnet at its core is crucial to Stark's health in the old comics. If Stark loses his chest plate or cannot recharge it (which, amusingly enough, he had to do by plugging himself into wall sockets in the earliest Iron Man comics),7 not only his heroism, but also his life is at stake.

Material studies have honed the literary critic's eye for the way objects figure in texts and other media. Of course, as opposed to other fields of research such as archeology or ethnology, literary studies and comics studies specifically do not necessarily deal with 'actual' objects and materials and the functions those serve(d) in actual societies, even though certain interesting points about those could of course be made in the case of comic books as well. Instead, the focus usually lies on 'fictional' objects whose materiality has been constructed within a narrative. This means that at least two levels of analysis are discernible: on the one hand the concrete way materiality is described in comic books. for example when objects get explicit material attributes; on the other hand, the way objects and their materiality become an integral part of a narrative, which is related to the question of why a certain materiality is even made explicit. The second level of analysis is mainly concerned with the metaphorical connotations that are 'attached' to certain materials and objects, with the relationship of the 'subjects' in a given narrative to those objects and with the status accorded to certain object within narratives and bigger discourses.

Iron Man proudly carries the name of a metal in his moniker. This links Stark to DC's Superman, who was given the nickname 'man of steel' in 1938/19398 (the exact *nom de guerre* Joseph Djugashvili adopted, albeit in Russian: Stalin).9 The superheroic model of manliness, to be elaborated on later, seems especially concerned with turning the human flesh into non-human metal, as Weltzien has noted. 10 However, the actual materiality of the suit remains unclear in the comics; one would in fact be hard put to find a material that fulfills all the criteria, for example enduring a huge amount of strain while being light enough to allow the wearer to maintain his flexibility. Earlier comics are unconcerned with those problems: when they address the material the suit is made out of at all, they cite conflicting or nonsensical options, such as, in Stark's first origin story, "iron" (which would of course be way too heavy) fitted with a "self-lubrication system" (Tales of Suspense 39, 1963). A few issues later, Stark changes his armour when confronted with an enemy who can melt iron - the new version is made out of "tough extruded aluminum" (Tales of Suspense 47, 1963; emphasis in original). A first elaborate 'technical' explanation of a new model of the suit, again made out of "iron", but "all light-weight and far more flexible than" the former model, happens in issue 48 of Tales of Suspense, the first issue where Stark dons his trademark red-and-gold look. The replacement of the suit is prompted by the strain the "heavy" iron frame exerts on Stark's heart (Tales of Suspense 48, 1963); the materiality of the suit therefore endangers the hero and prompts him to modify his weapon.

The material tends to be a topic¹¹ in newer comics at least whenever Stark creates a new iteration of the Iron Man armour; typically, elements from a popular scientific discourse are taken up. The movies are also tapping into a pseudo-scientific discourse¹² when addressing the materiality of the suit, with Stark explaining to his A.I. that it should be made out of "the gold titanium alloy from the seraphim tactical satellite" in order to preserve the "power-to-weight ratio" while ensuring "a fuselage integrity" (*Iron Man*, 1:06:22-28).

From the 1990s onwards, nanotechnology is particularly favoured when describing Stark's technology in comics. The *Extremis*-storyline (2005/2006) for example finds Stark faced with a problem: he cannot get the evolved Iron Man technology back to a "collapsible model",¹³ because it got "overcomplicated" the more he "added", a comparatively 'realistic' take on the making of the suited hero. His newest model is "made out of memory metals" (*The Invincible Iron Man*, vol. 4, issue 4, 2006):

An electric charge makes it snap into shape, and the molecular structure collimates into super-hard planes. Most of the interior elements compress to about

90% of their working volume. [...] But I couldn't miniaturize the control systems. I still needed the undersheath, the hard upper torso and the helmet systems. We can reconfigure Extremis to do all those jobs. (ibid.)

Extremis is a 'nanotechnology serum' that directly interfaces with the brain; Stark reprograms it for his own purposes, in the next few years more or less carrying his Iron Man technology in his head and his bones. With Extremis, Stark finally becomes a superhero in the more conventional sense that he does not solely rely on objects exterior to him. The nanovirus gives him superhuman healing abilities, direct access to all information networks, the ability to control the suit "by thought" and so on (The Invincible Iron Man, vol. 4, issue 5, 2006). This storyline is still one of the prime examples of Stark becoming one with his technology,14 of a fusion of the suit and the man that will be discussed further down.¹⁵ This fusion lends the visual depiction of the 'metal' the suit is made of a strangely fluid and anthropomorphic quality that is even more heightened in the next model Stark wears, the so-called *Bleeding Edge* armour (figs. 1-2).



Fig. 2: Bleeding Edge (*The Invincible Iron Man*, vol. 5, issue 25, 2010)



Fig. 1: Metal or Skin? Extremis (Iron Man, vol. 4, issue 5, 2006)

Some foes pose a particular challenge to Stark's object-related heroism. Magneto, a mutant able to control all metals, wonders if Stark would really try and attack him "in a simple suit of iron", only to realise that his opponent is in fact wearing a suit made of "carbon nanotubes", 16 a term popularized in the 1990s. In another encounter with Magneto, the question of the materiality of the suit is treated in a more humorous manner. Stark again specifically changes armor to confront Magneto, reminiscent of Tales of Suspense no. 47, only to have the mutant make fun of him and his inaccurate name: "The Invincible Rubber Man doesn't have quite the same ring to it" (Magneto – Not A Hero 1, 2011/2012). In another playful story, Stark is wearing a "nano-cotton polymer[]" suit that looks like a checkered shirt - the invention unfortunately literally does not hold water, though, and the suit unravels almost as soon as Stark activates it, leaving him halfnaked in the street.17

Iron Curtain Man: Iron Man Comics and Politics

Of course, Iron Man is not really called Iron Man because of the actual materiality of the fictional suit; the inconsistent portrayal of that very materiality makes that quite clear. Instead, at least two other dimensions of meaning seem to be relevant. Firstly, the metaphorical associations that the metal bears are central to the myth of Tony Stark (the armour "is all my metaphors", Stark says in one issue); secondly, the character's name references other narratives from literature and popular culture that are somehow connected to his story.

Iron Man is a Cold War hero, engaged in "America's Cold War struggle against the communist menace" (Tales of Suspense 40, 1963). The metal played a central role in the discourse surrounding the clash between the United States of America and the Soviet Union. The term Iron Curtain was already employed with its political meaning in one of the first comics in which Iron Man appeared (Tales of Suspense 42, 1963).20 Iron Man and Tony Stark stay linked to the Cold War-discourse for many years. After first taking down "gangsters" and "madm[e]n of science who seek[] to rule mankind" in the classical pulp tradition, as well as encountering a bizarre "Neanderthal man" that is revealed to be a robot (Tales of Suspense 40, 1963), Iron Man quickly finds his footing mostly fighting threats to Stark Industries, such as industrial espionage. In that context, Stark keeps on being confronted with communist enemies or "communist spies" (Tales of Suspense 41, 1963), for example the Soviet

spy Black Widow (or "Madame Natasha", as she is called in the first issue she appears in; Tales of Suspense 52, 1964), later to become an esteemed Avenger, the Crimson Dynamo²¹ or the Titanium Man, both supervillains based on technical enhancements. The communist backdrop also applies to his archenemy, the Mandarin and the "Yin" to Stark's "Yang",22 "the most feared Oriental of all time" or the quintessential "oriental menace".23 His 'oriental' nature is emphasised in earlier comics, both on the verbal level, with commentaries about him coming from "the orient", from "seething, smoldering, secretive red China" (Tales of Suspense 50, 1964), as well as on the pictorial level, through stereotypically 'Asian' features, clothing and the ornamental throne he sits on.24 As son of a wealthy Chinese this "Karate master" (ibid.) is connected to Communist or "red China", even if his relationship with that nation is a rather ambivalent one.25

Early Iron Man comics exemplify the strength of the American military-industrial complex in Stark's tireless fight to equip the US army with better weapons and engage communist foes in his superhero identity.26 Those comic books highlight the contribution to the war that American inventors and tycoons are capable of (or would be capable of, were they genius superheroes).27 Such an utterly naïve outlook on politics with its dichotomy of good and evil gets put into question quite soon, however. At the latest in the 1970s, when the protests against the Vietnam War were at a height in the US, Stark ceases to simply be the figurehead for the American military-industrial complex, instead "questioning just whose democracy" he is "serving" "or just what those you served intended to do with the world once you'd saved it for them": "Vietnam raised all those questions, didn't it, Tony?" (Iron Man 78, 1975; emphasis in original). This portrayal of a "soul-searching" (ibid.) Stark haunted by feelings of guilt for his own involvement in America's military pursuits soon became the standard that was also drawn upon for the movies.

When Iron Man's origin story got actualized in the 1990s and in 2005/2006, first in the context of the Gulf War, then the 'War on Terror' in Afghanistan, its basic structure was preserved: Stark gets abducted by "America's enemies" (*Tales of Suspense* 41, 1963) and becomes their vanquisher, leading to the adoption of his superhero identity. The movies adopt this premise, but add an interesting twist: Behind the machinations of the 'foreigners', the stereotypical 'other' such as the clichéd terrorists of the Ten Rings in the first Iron Man movie or the Russian Whiplash in *Iron Man* 2, there is an inner-American enemy that pulls the strings and for example uses fears of terrorism for his own goals.

The to-date last movie of the franchise, Iron Man 3 (2013), expounds the problems inherent in constructing a non-American, foreign antagonist on a meta-level, referencing the history of the comics. The Mandarin, portrayed by Ben Kingsley, is a mix between a clichéd 'terrorist' (his voice, looks and propaganda videos are clearly reminiscent of Osama Bin Laden) and the 'Asian threat' from the comics, dressed in 'exotic', richly ornamented robes and posing in front of reliefs of dragons and what looks like vaguely Asian characters. The whole PR campaign for the movie conveys exactly that image, for example featuring ominous voice-overs by the Mandarin threatening the US in trailers. The movie itself, however, radically breaks with the tropes the PR campaign established.

The protagonists spend time searching for terror cells of the Ten Rings, the organisation the Mandarin is supposed to lead, in unspecified, but clearly Muslim areas of the world (Iron Man 3, 1:09:30-1:10:03), only to be cut short by disbelievingly discovering that the threat leads back to Miami, of all places. It is revealed that the Mandarin is in fact Trevor Slattery, a washed-up British actor addicted to drugs and hired under false pretences to impersonate the 'Mandarin' in the PR videos.²⁸ The Mandarin is "just a role", and Slattery goes on to dismantle the image of the enemy the PR campaign and the movie hitherto established by quoting what the think tank that created the Mandarin had intended to do, directly following it up by a phrase from one of the propaganda videos:

The pathology of a serial killer... The manipulation of Wester iconography... Ready for... another lesson? Bla bla bla! Of course, it was my performance that brought the Mandarin to life. [...] Honestly, I wasn't on location for half of this stuff. When I was, it was movie magic, love.²⁹

The real super-terrorist is Aldrich Killian, head of the American 'think tank' called Advanced Idea Mechanics³⁰ who created the Mandarin to mask failed scientific experiments with the movie-iteration of the Extremis virus as terrorist attacks. He plans to eventually control the US by abducting and killing its president, which would cause the vice president to take over, a man under Killian's wing. In that sense, the PR campaign used for the movie cleverly mirrors its plot and exposes the tendency of the viewers to thoughtlessly buy into the very tropes the 'real' villain of the narrative employs to manipulate the US-American public.³¹

While modernising and obviously changing key elements from the comics, the story of *Iron Man 3* still employs some key motifs used again

and again in Tony Stark's multimedia narratives and their iconography. Killian's apparent demise is followed by a scene in which Stark stares at a burning Iron Man helmet. After a moment of tension reinforced by the background music, the helmet pops open, the mask falling down to reveal the emptiness inside.32 This both references the 'Mandarin' who turns out to be nothing but a mask or persona, and Stark's own struggle with his identity, with who he is beneath his mask, a key topic of Iron Man 3. That struggle with the emptiness inside the mask or the question of what is left of Stark once the armour is removed is a central topic in the comics. In a storyline from 1984 revolving around Stark's depression and alcoholism, he for example reflects on having created only "a human shell" he has lost himself in (Iron Man 182, 1984). In another story from 1992, he builds the armour to protect himself from being "hurt", only to realise that "a shell of iron - is hollow" (Iron Man 286; emphasis in original). In Iron Man 3, Killian reappears after that moment of apparent calm, and admonishes Stark: "No more false faces",33 a statement again both applicable to himself, revealed as the Mandarin, and Stark, who in the very last voice-over of the movie states that his armour was a "cocoon" he now has to shed.34

Behind the Mask

The mask is a key element in superhero comics;35 it represents the ability of the hero to act in ways not permitted to 'civilians' and not mediated by the law. In general terms, the ability to put on a mask designates the possibility of consciously or subconsciously creating various images of oneself.36 To put it differently: the mask stands for a person's awareness of being different from what any observer might perceive them as, which allows them to create diverse roles for themselves. Iron Man's mask is again and again used to connote the problem of roles and authenticity, as Iron Man is the sublime role Stark fabricates for himself. Stark not only wears a mask that also protects his identity in the older comics (in the eyes of the public, Iron Man is at first Stark's bodyguard) - the 'material' mask in the narrative simultaneously represents the mask that successful inventor and businessman Stark has to wear in his public life, as exemplified in a scene written in the Eighties, where Stark takes off his armour only to put on "a different kind of armor – a two hundred dollar, custom-tailored suit..." (Iron Man 168, 1983).

The man behind the iron mask in many ways does not measure up to his public persona. His vulnerability, associated with his injured heart, is a big topic which will be treated more thoroughly further down. Another point especially made in newer comics is Stark's tendency to publically make decisions he considers necessary, but cannot live with behind closed doors. Stark is a 'science hero', to use Alan Moore's famous term, but narrow its meaning down to heroes who are explicitly scientists and mainly use scientific achievements in their exploits. Like many other science heroes in the Marvel universe, for example the Fantastic Four's Reed Richards, Stark's moral outlook is that of a consequentialist, more precisely a utilitarian. He is both shown to choose 'the greater good for the greater number'37 and follow a 'the end justifies the means' logic, for example when faced with the potential theft of his technology.38

While other science heroes are almost by definition coded as cool intellectuals willing to make hard choices without batting an eyelid and basing their decision-making solely on math and quantifiable data, Stark is shown as perpetually struggling. In Civil War,39 the 7-issue comic event Marvel put out in 2006/2007 implicitly dealing with the political situation in the US post 9/11 and specifically with the PATRIOT Act,40 Stark decides to support a 'superhero registration act', obliging the costumed heroes to expose their identities to the government.41 The act gets pushed through congress after a catastrophe caused by a young superhero claims the life of many innocents, mainly children, which aggravates an already volatile situation of distrust towards the community of superheroes. In tieins to the main series42 it is revealed that Stark was aware of alternative plans for the superhero community which involve locking its members up to experiment on their augmented biology (Civil War: Casualties of War). Stark's decision to support the act and try and 'come clean' pits him against Captain America, who deontologically insists on the freedom of the individual and criticizes the infringement of privacy.43

For a big part of the main story, Stark is wearing his armour, whose mask gives him a hard, decisive look (fig. 3). However, Captain America apparently dies as an indirect consequence of Stark's actions, 44 and a one-shot called *The Confession* deals with the fallout. On the verbal and the visual level, *The Confession* tells the story of an unmasking. Stark pulls off his helmet as he sits down next to the slab on which the body of Steve Rogers, Captain America, is placed. For a series of panels, the reader only sees the mask and a faint reflection of Stark's face. While the two sets of lines are more or less in harmony at the beginning, Stark's face neutral, the image

becomes disharmonious as the face of the man behind the mask begins to twist in emotional agony (fig. 4). In the written narrative, Stark's apparently harsh and more or less remorseless attitude is dismantled as nothing but a show. The intent of *The Confession* clearly is to establish Stark as a tragic hero who is willing to sacrifice everything for what he considers to be the right thing. Ultimately though, confronted with the shambles of his life and the death of one of his closest friends, Stark has to conclude that "it wasn't worth it": "Even though I said I was willing to go *all the way* with it... I wasn't (Civil War: The Confession; emphasis in original).



Fig. 3: Civil War 1, 2006.



Fig. 4: Civil War: The Confession, 2007.





Fig. 4: Civil War: The Confession, 2007.

The mask as part of the armour is a first object whose metaphorical dimensions are central to Stark's problematic or tragic brand of heroism. Certain other metaphorical aspects of the 'iron' suit as a whole are guite obvious and have again and again been taken up over the years. On the manifest level of the comic narrative. Stark wears his suit because his heart is badly damaged and in constant danger of giving out. Depending on the iteration, Stark in fact trades the mostly external chest plate for an internal artificial heart, for example in the form of the arc reactor from the movies or the RT in the comics.46 "I have a piece of metal rubbing against my heart", Stark states in his new origin story from the Extremis-storyline, alluding to the name he will choose as a superhero (The Invincible Iron Man, vol. 4, issue 5, 2006). In that sense, the iron he is named after represents both Stark's greatest strength and weakness, both the hero, Iron Man, and the man with the piece of iron endangering his heart.

The damaged heart is at times linked to the younger Stark 'not having had a heart' in his remorseless dealing with weapons before he became Iron Man, who gave him an artificial heart as a replacement. In that sense, becoming a man of iron paradoxically heightened Stark's humanity. A new example of this idea can be found in the *Iron Man Annual* (2014), where Stark has nightmare-like visions of Yinsen putting the reactor (visually clearly inspired by the depiction of the reactor in the movies) in his chest, all the while musing "Tony Stark: smartest man alive. If only you had a heart." This story puts Stark in a potential intertextual relationship with the Tin Man from *The Wizard of Oz*, a relationship that is

at times made explicit in the comics ("You were always an Iron Man. Far harder than a tin one, but with all its deficits"; *Iron Man Annual*, 2014 [vol. 5, issue 1]). With its silvery finish, Stark's first suit furthermore resembles popular depictions of the Tin Man such as the one in the movie from 1939 (fig. 5).

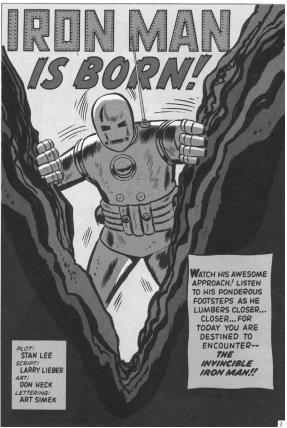


Fig. 5: Marvel's Tin Man (Tales of Suspense 39, 1963).

Stark's suit not only resembles the Tin Man; as mentioned before, it above all references the armours of medieval knights, worn both to physically protect them and to scare their antagonists by becoming less human. Ironically, that function of the armour is one Stark seeks to eliminate in the second issue he appears in; when bystanders exclaim how "dreadful looking" Iron Man is, like "a creature in one of those science fiction films", Stark realizes that his "appearance terrifies women and children as if" he were "a monster": "I must remember to alter my costume so I don't look like a walking nightmare!" (Tales of Suspense 40, 1963; emphasis in original).48 Stark asks one of his female companions how he should redesign his costume; as he "battles menaces like a hero in olden times", a "modern knight in shining armor",49 she suggest he wear "golden metal", which he does until issue 48 of Tales of Suspense.

As a modern knight in armour, Stark can be read as a new King Arthur. Stan Lee emphasized that when he created Iron Man, he "wasn't thinking robot at all; I was thinking armor, a man wearing twentieth century armor that would give him great power", referencing "the days of King Arthur", but an Arthur with an armor making him "as strong as any Super Hero" (quoted in Mangels, 4). The references to the myth of Arthur in subsequent comic books are seldom subtle. One famous story arch for example shows Stark and the supervillain Doctor Doom, another wearer of armour, end up accidentally travelling through time and meeting King Arthur and the Knights of the Round Table. 50 Another story depicts Stark as a kid discovering Malory and his Morte D'Arthur,51 which opens up a whole new world of "armored heroes" to him.52



Fig. 6: The grotesque cyborg: Tony Stark's 'intimate enemy (*Iron Man* 232, 1988).

Masculinity as Mask

The knight-motif posits Iron Man's armour as an outer means of protection, clearly distinguishing between the technology and the man instead of hinting at a robotic or transhuman existence. An opposite reading exists as well, according to which Iron Man and Stark become increasingly intertwined, raising the question of where the man ends and where the suit begins.

The blurring of the boundaries between man and machine is both undertaken on a verbal and a visual level. As a kind of pacemaker the chest plate of the suit is of course a vital part of Stark's physiology from the very beginning. Over the years, the first, clunky models of the armour get replaced by increasingly anthropomorphous ones; as already mentioned, the Extremis armour and above all the Bleeding Edge armour that follows it are an integral part of Stark's own body, with him carrying the latter entirely in the hollows of his bones.⁵³

The technological body in Iron Man comics carries in it the potential to become grotesque. Stark harbours a constant fear of transforming into a grotesque cyborg⁵⁴ that does not seem to conserve any of the positive, liberating connotations Donna Haraway famously developed in the *Cyborg Manifesto* (1985).⁵⁵ In this context the comics feature some visually striking images of a Stark enslaved by a machine (fig. 6) or of dystopian futures in which "the machine" enslaves humanity.⁵⁶

The fact that Stark's heroism relies so heavily on technology can become problematic. Conventionally, Stark spends a lot of his time battling villains that try to or have managed to appropriate his technology and use it for nefarious purposes.57 Furthermore, the suit reveals itself to simultaneously be Stark's biggest strength and weakness when various antagonists manage to hack into his systems,58 for example forcing him to kill innocents,59 fully invading his body and mind⁶⁰ or leaving the whole world, at that point in comics canon heavily depending on Stark technology, vulnerable to an alien attack.61 Another recurring problem resulting from the marriage of the organic and the technological is the suit (or the A.I. of the suit) gaining independence and overpowering Stark.62 The principle of equal agency of human and non-human actors from the actor-network theory seems to be taken literally in certain stories, so to speak; the non-human actor, the armour, gains agency, while the humanity of the human actor is put into question ("if only you had a heart"). The humanization of the machine can be read as a narrative revolving around the doubling of the self, as the Iron Man armour is shown to be an aspect of Stark's personality through a multitude of intertextual clues, for example by referencing the story of Frankenstein.63 Depending on the context, this second self can be read as a doppelganger, an Ego ideal or manifestation of the repressed parts of Stark's mind.

The deconstruction of set boundaries between human and non-human actors in the Iron Man comics goes hand in hand with an unsettledness with regards to gender roles. Weltzien remarks that in the cases of Spider-Man and Superman, the contrast between the civilian and the superhero identity is maximised; Clark Kent is a clumsy journalist, Peter Parker a high school nerd. Batman however represents a different kind of superheroic manliness that is not built on a mechanism of compensation because his alter Ego, Bruce Wayne, can be seen as manly too: he is a successful, brilliant, goodlooking billionaire and womaniser.64 In the case of Iron Man, those two opposing logics seem folded into one. At first glance, Tony Stark is almost the Marvel-equivalent of Bruce Wayne, a charming womanising billionaire scientist without innate superpowers. Some analysis however reveals that Stark's apparent virility is constantly endangered.65 Stark's story is essentially that of a wounded man unable to "adjust to postwar society", a man with a "wound to his masculinity, symbolized by his castrated condition" that he is unable to reconcile with (Genter 968).66

With regards to notion of gender, Iron Man is Stark's Ego ideal from the very beginning. Like many superheroes, Stark - who is orphaned when the reader first meets him - suffered from a problematic relationship with his father, Howard Stark, the co-founder of Stark Industries. Tony is shown to be a sensitive child failing to live up to his father's rigid standards of masculinity: "I was seven when my father decided I was a disappointment to him" (Iron Man 287; emphasis in original). This leads to verbal and in all probability physical abuse. 67 In one story, a very young Tony hurts his hand while tinkering with electronics and starts to cry, which prompts Howard to warn him: "it's just a scratch, boy. [...] You don't want to be a sissy, now do you? Stark men are made of iron!" (Iron Man 286; emphasis in original).

Clearly, the battle armour functions as compensation for a deficient masculinity, as little Tony Stark even builds a miniature version of what is to become his armour in the issue in question, representing "the things I wanted to be, but couldn't – [...] Powerful. Emotionless. Indestructible" (ibid.). Another story arc shows that at its core, the 'Iron Man' Stark fabricated for himself is nothing more than an accumulation of his father's toxic views of masculinity young Tony internalized and repressed (*Iron Man* 300,

1994). Tony Stark is precisely not a man made of iron, ⁶⁹ a failure his father reproached him for already at a young age ("be a *man*!"; *Iron Man* 300; emphasis in original ⁷⁰): "Sometimes I wonder which is the real me... This splendid metal skin I've created – or the frail thing of flesh that wears it" (*Iron Man* 164, 1982). From his early appearances in comics, the very vincible⁷¹ Stark again and again appears on panel crying. In the late Seventies, Stark's alcoholism – either caused by or coinciding with depression⁷² – adds to that aura of vulnerability. The addiction is often imagined as a contrast between the strong superhero, *The Invincible Iron Man*, and the weak man Stark (fig. 7).



Fig. 7: Tony Stark, the alcoholic (*Iron Man*, vol. 3, issue 27, 2000).

Stark's masculinity is also deficient in a directly sexual sense, when erectile dysfunction (*Iron Man* 301) or other problems in bed (*Guardians of the Galaxy* 4, 2014) are treated in the comics (fig. 8).



Fig. 8: Questionable virility (Iron Man 301, 1994).



Fig. 9: Invincible Iron Man 503, 2008.

Furthermore, Stark again and again gets targeted by gendered slurs or has villains and other characters belittle his masculinity, be it his father's "sissy", some other boys' "pansy" (*Iron Man* 287) or villains threatening "a guy like" Stark with castration (*Avengers*, vol. 4, issue 12, 2011) or, in one particularly graphic case, having Stark kneel before them, "beg" and call them "master" while Stark has to kiss one of the villain's artificial, tentacle-like limbs (**fig. 9**).74



Fig. 9: Invincible Iron Man 503, 2008.

It is quite typical for superhero comics that the protagonists lack an actual sex life. Masculinity is defined by a deficiency: the superhero cannot live a normal life; his superhero identity often comes at the price of love and a family life.75 In the case of old Iron Man comics this basic structure is heightened by the fact that it is the superheroic identity that infringes upon Stark's attempts at intimacy in a corporeal manner. From the beginning of his publishing history, Stark is described as a charming "playboy" (Tales of Suspense 39, 1963). Because of his double identity, however, he is never able to more than flirt with beautiful women, as that would expose his chest plate, a fact Genter seems to be unaware of when he sees Stark's "sexuality" as "unregulated" and claims that in creating Tony Stark, Stan Lee rethought the "contours of male identity" according to the model of masculinity developed on the pages of the Playboy magazine.76 The first such incident already happens the second time Stark appears in comics (Tales of Suspense 40, 1963). In this instance, the sexual significance of the scene is still implicit, as Stark only declares he cannot go "swimming" with some "beautiful women" because "can never appear anywhere bare-chested".77 In the form of the chest plate, the hyper manly Iron Man disrupts Stark's love life.

If the suit is an Ego ideal or compensatory device surpassing Stark in manliness, it is just as much an evil doppelganger of Stark reminiscent of Doctor Jekyll and Mr. Hyde; lastly, it is both an object and a subject of desire and a fetish. A storyline published in 2000 under the title *The* Mask in the Iron Man blends all those elements (Iron Man, vol. 3, issue 26-30). In an accident, the newest iteration of Stark's suit gains sentience, only to immediately fall in love with its creator. This love is unrequited, creating a tension in the relationship between the creator, the subject, and his object. The suit, whose gendering is ambivalent, locks Stark into his own house, drives away his girlfriend and asks Stark to love it back. When Stark tries to escape in an older model of the suit, the sentient armour discovers him. A brutal fight takes place, during which the sentient armour utterly dominates Stark and part by part pulls the older suit off him while roaring in jealousy: "how dare you?! You betrayed me! [...] You and that thing!" (Iron Man, vol. 3, issue 29, 2000; emphasis in original), all the while demanding that Stark get inside it. The sexual symbolism of the scene is more than obvious and places Stark in a position that is hardly typical for a hyper manly superhero (fig. 10).



Fig. 10: Machine and Man (Iron Man, vol. 3, issue 30, 2000).

After the fight, the suit takes an unconscious Stark to an island, where he wakes up practically naked and tied to a wooden cross. The suit continues to terrorise and torture Stark, demanding that he love it and get inside of it. After further complications, Stark almost dies of a heart attack, which prompts the suit to remove its own mechanical heart and implant it into Stark's chest.

Conclusion

The narrative is a perfect example of the different layers of meaning the suit has. On the one hand, it frames the suit as an evil alter Ego or doppelganger; Stark himself reflects on the behaviour of the suit mirroring his own in his worst moments (Iron Man, vol. 3, issue 27-28). In the face of the obvious sexual symbolism, it is not far-fetched to employ psychoanalytic literary criticism and arrive at a slightly different reading: the suit simultaneously represents the wish of becoming one with oneself, the narcissistic fantasy in which the subject and the object of desire become one (the suit speaks of the "perfect union" Stark and it could achieve; Iron Man, vol. 3, issue 28). Such an entanglement is also alluded to when Stark is unhappy about the 'death' of the suit, after all it has done to him, and begs it to not sacrifice itself for him by taking out its 'heart': "No, wait, hang on. Let me get inside you. We can save each other... I can fix this!" (Iron Man, vol. 3, issue 30; emphasis in original). (If one tried to interpret this strange twist in more or less realistic psychological terms, that kind of emotional reaction could only be understood as some kind of Stockholm Syndrome.) Ultimately, Stark cannot save the suit; the machine has to die for the man to live and get back to what is ironically called his "good life" throughout the arc.78

Iron Man's heroism is a fragile thing — between the weak man Stark and the potentially hostile machine, it is in constant danger of turning against itself. While the political context the character was created in could make the reader expect a clear-cut vision of the strength of the American military-industrial complex, this analysis has revealed that both comics and movies have spun multifaceted, at times contradictory narratives. Iron Man is an exemplary soldier for America, yet he questions American values and images of the enemy; he represents a form of hyper-masculinity that turns an apparent weakness into a strength, yet many narratives radically erode his masculinity. This ambiguous nature

of Stark's superheroism is intimately related to the fact that it relies on an object that is both a means of protection and attack, both a symbol of vulnerability and aggression, an object that simultaneously represents the desire to love and be loved in personal union: an Iron Man.

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- 1 He was created by Stan Lee, Larry Lieber and the artists Don Heck and Jack Kirby.
- 2 In the story from 1963, Yinsen is not given much agency; he mostly executes Stark's plans for both a chest plate and the suit of armour and is reduced to a role akin to that of a 'noble savage' sacrificing himself so Stark can live. The first Iron Man movie gave Yinsen a much more active role and has him construct the first chest plate by himself.
- **3** A phrase also used again and again on the covers or opening sequences of old comics, for example, the first page of *Tales of Suspense* 42.

The numbering of Marvel comics is more than confusing, as the counting of issues regularly gets restarted and even the distinction between volumes is not clear. The author has chosen to designate comics as clearly as possible. In the simple cases, this only requires indicating a title or a volume, an issue number and a year; in the more complex cases, the writers and artists of the comics referred to are also mentioned. As pages are usually not numbered in comics, the indication of the issues in question has to suffice.

- 4 See Fallen Son: The Death of Captain America. Issue 3: Bargaining, in which the ability to throw the shield seems to be the main quality a potential successor to the mantle of Captain America needs.
- **5** As his blurb throughout the second half of volume 3 of the *Iron Man*-series states.
- **6** Stroud uses the term of the 'technological hero' in a slightly different context and connects the 'technological hero-quest' to Campbell's "monomyth" as developed in *The Hero with a Thousand Faces*.
- 7 "Just as other men plug in their electric shavers for their morning or evening shave, I must constantly charge up this plate which gives continued life to my heart!" (*Tales of Suspense* 40. 1963).
- 8 The name is first shown as part of newspaper headlines in 1938's *Action Comics* 6; by 1939's *Action Comics* 11, the term was being used by DC itself to promote Superman.
- **9** Weltzien also mentions the "Kruppstahl'-manliness promoted in National Socialism; Weltzien 231.
- 10 Ibid.
- 11 Regarding strategies that turn the superhero's costume into a more 'believable' object, e.g. by detailing its materiality, see Brownie and Graydon 41-44.
- 12 In the same vein, several books like the *Iron Man Manual* have been produced, in which diverse visions of

Stark's technology are laid out in detail (Wallace). See also Brownie and Graydon 147-148 for a view of Stark's technology as "futuristic yet feasible".

- **13** The second comic issue Stark ever appeared in already showed him with a "collapsible" model in a suitcase; *Tales of Suspense* 40, 1963.
- **14** Another good example of the fusion of man and machine can be found in the 1990s; *Iron Man* 290, 1993.
- **15** In Stark's own words, his quest is about "adapting machine to man and making us great." (*The Invincible Iron Man*, vol. 4, issue 5, 2006).
- **16** Avengers vs. X-Men 1 (2012, written by Kathryn Immonen, art by Stuart Immonen).
- 17 Longshot Saves the Marvel Universe 1, 2013/2014.
- 18 Stan Lee himself had this to say about the naming of the superhero: "If he's going to wear a type of metal armor, that could be it. The word 'metal' was a step in the right direction. How about *Metal Man*? Not bad, but somehow it didn't seem strong enough. Some metals are weak some can bend and break. I felt it would be better to get a specific metal. Perhaps steel would do the trick. But it didn't quite work in combination with other words, as in *Steel Man* the rhythm was wrong. So, I kept thinking and running down a list of metals until I came to iron!" (Lee, 189; emphasis in original).
- **19** The Invincible Iron Man, vol. 2, issue 1, 2015 (written by Brian Michael Bendis, art by David Marquez).
- **20** A paper just appeared with the pun 'Iron Curtain Man' in the title, discussing the *Civil War*-event and the ideological backdrop of Iron Man and Captain America; cf. McClancy.
- 21 First appearance in Tales of Suspense 46, 1963.
- 22 The dichotomies between Stark and the Mandarin are made explicit when the Mandarin exclaims, "We are *Yin* and *Yang*, *East* and *West*, *Black Science* and *Mystic purity*." (*Iron Man* 311, 1994; emphasis in original).
- 23 His tagline on the cover of Tales of Suspense 50, 1964.
- 24 See the cover to ibid.
- 25 See for example, Tales of Suspense 50, 1964.
- **26** For a general account of Marvel Comics during the Cold War see Genter, with the part about Iron Man and the weapons industry on pp. 965-969.
- 27 See e.g. the "integrator ray" Stark presents to representatives of the US military in issue 42 of *Tales of Suspense*, a ray that "could wipe out a fleet of enemy battleships or even a great metropolis."
- 28 The second remark the viewer hears Slattery utter already alludes to his 'fake' character and the US-American appropriation of seemingly 'Asian' things, unable to discern between what is Chinese and what is Japanese, a fact many early comics bear testimony to: "Did you know that fortune cookies aren't even Chinese? They're made by Americans, based on... based on a Japanese recipe" (*Iron Man 3*, 1:15:25).
- 29 Iron Man 3, 1:17:45-1:18-14.
- **30** A reference to A.I.M., the evil scientific organisation from the comics.
- **31** Of course, the systematic establishment of white Americans as the real threats within the *Iron Man* movies can also be read more cynically: the non-white antagonists serve as no more than either jokes or ultimately impotent henchmen to the people who actually wield the power, thereby being declined agency within the plot. The dominant position in the narratives remains clearly white and American in that sense, the exclusion of people of colour from power is perpetuated while being criticised.

- 32 Iron Man 3, 1:52:20-28.
- 33 Iron Man 3. 1:52:47.
- 34 Iron Man 3, 1:59:10.
- **35** For the motif of the mask and its central role in superhero comics see Brownie and Graydon.
- 36 Weihe 14-15.
- **37** E.g. in Jonathan Hickman's *New Avengers* (2012-2015), where Stark is faced with a dilemmatic situation and chooses the path he believes would save the most people; see the betrayal of his friend Captain America in issue 3.
- **38** See, for example, the storyline *Stark Wars*, now known as *Armor Wars*, running from *Iron Man* 225-231, 1887/1988.
- **39** A whole volume dealing with the event from a critical perspective has just been published (Scott).
- **40** For a reading employing discourse analysis to dismantle the ideological thrust of the comic in the debate around the PATRIOT Act, see Veloso and Bateman.
- 41 The precise content of the act is very unclear and portrayed inconsistently in the main series and the tie-ins; see Davidson
- 42 Civil War follows the typical structure of Marvel event-books, which consists of a main series written by one writer, tie-ins into other series of the Marvel verse and some one-shots or mini-series only being published as part of the event. All in all, it consists of more than 100 comics in which the positions of the heroes are also shown in contradictory ways; some books quite clearly show the pro-registration heroes as villains (e.g. the Spider-Man tie-ins, Amazing Spider-Man 529-538, 2006/2007), while others do not, like Civil War: The Confession or Civil War: Casualties of War (both 2007).
- **43** For an interpretation of the moral issues at stake in *Civil War* Deontology vs. Utilitarianism see White.
- 44 Only to be reborn a few years later in the subtly titled story arc Captain America: Reborn.
- 45 The contrast between the suit and the man in it is played up in most stories revolving around Stark after *Civil War*. The *Iron Man: Director of S.H.I.E.L.D.* series e.g. finds him not taking his suit off anymore, which leads to most people presuming he is okay underneath; once he is forced to take it off, though, the extent of his mental breakdown is revealed (*Iron Man*, vol. 4, issue 23 [Director of S.H.I.E.L.D], 2007, written by Daniel and Charles Knauf, art by Butch Guice).
- **46** Stark first implants the RT in Fraction's volume 5 of *The Invincible Iron Man* (2008-2012). Before that, there's a phase when Stark covers a version of the chest plate with "pseudoskin" to make it look like part of his body (*Iron Man* 269, 1991).
- **47** Almost the exact same line is used by Stark, describing himself in *(The Invincible) Iron Man*, vol. 3, issue 50, 2002.
- 48 In issue 48, Stark finds a new way of "instilling fear in the hearts of" his "enemies": he designs a new mask for his suit which "enables" his "expression to show". It is not quite clear whether this alludes to the fact that quite a big part of Stark's face is visible under the mask, or to the metal actually mimicking his facial features. In subsequent issues, the metal mask does in fact take on a strangely organic or anthropomorphic quality that has Iron Man show fear and pain. This expressiveness of the iron mask might have been prompted by concerns of readers not identifying strongly enough with a character whose emotions aren't reflected on his face.
- **49** A phrase also used again and again on the covers or opening sequences of old comics, e.g. the first page of *Tales of Suspense* 42.
- 50 In the story collected under the title *Doomquest (Iron Man* 149-150, 1981); a rather strange sequel has the title *Re-*

- curring Knightmare (Iron Man 249-250, 1989) and features a future version of Camelot in the year 2089 A.D. and a reborn version of Arthur.
- 51 Or Le Morte d'Arthur, the correct historical spelling.
- 52 Iron Man 287.
- **53** For this bit of dubious comic book science, see *The Invincible Iron Man*, vol. 5, issue 26.
- **54** See e.g. the nightmare in *Iron Man* 232, entitled *Intimate Enemies*, where Stark is chased by a grotesque cyborg-version of himself, "draining" him like "a lover" (1988); Fig. 6.
- **55** For a reading of Stark as a cyborg, see also Brownie and Graydon 145.
- 56 See *Iron Man* 281, 1992; *Iron Man*, vol. 3, issue 58. The whole story arc is entitled *Sympathy for the Devil*. The fantasy that the arc's villain draws Tony into is at the same time a nightmare of Stark.
- **57** See e.g. the famous *Armor Wars*-storyline from 1987/1988 (*Iron Man* 225-231).
- **58** Alternatively, Stark has to discard his armour because it would leave him vulnerable to such attacks; see e.g. *Avengers*, vol 4, issue 4/5, 2010 (Brian Michael Bendis, John Romita Jr.).
- **59** See, for example, *Execute Program* (*The Invincible Iron Man*, vol. 4, 7-12).
- **60** In *Mighty Avengers: The Ultron Initiative*, the evil artificial intelligence of the same name takes Stark over and transforms his body into that of a beautiful woman, a narrative again playing into the 'feminization' of Stark (*The Mighty Avengers*, 1-6, 2007).
- **61** As seen in *Secret Invasion*, the big Marvel event from the year 2008, during which Stark served as head of global security. The failure of his technology leads to his downfall as Director of S.H.I.E.L.D.
- 62 Iron Man 307-309. 1994.
- **63** Cf., for example, the Frankenstein-quotes in *Iron Man*, vol. 3, issue 55 and 56, 2002.
- **64** Weltzien 232.
- **65** This fact has, for example, been disregarded by Brownie and Graydon 149, who claim that Stark's "virility" is in no way compromised, thereby ignoring the more subversive elements of the narrative(s).
- **66** For Iron Man as a symptom of a crisis of masculinity see also Sanderson 112.
- **67** Physical abuse gets hinted at in several issues, for example *Iron Man* 287, 1992.
- **68** Genter quickly touches upon the crisis of masculinity that seems to be at stake in Iron Man comics; Genter 968-969.
- **69** See e.g. the visual depiction of Stark wearing an invisible helmet, "pretending" it does not hurt anymore when trying to cope with his grief over the death of a friend in *Iron Man* 217, 1987.
- **70** Howard Stark is again seen calling Tony a "sissy" and telling him to be "tough", "strong", "a man" in *Iron Man* 313, 1995. In that context, Howard forces Tony to drink Whiskey to "put hair" on his "chest".
- 71 See e.g. his reflections in *Iron Man* 261; Stark sees himself "proven so much *less* than invincible" (emphasis in original).
- 72 In certain meta-texts like the Marvel Psych Ward series, Stark explicitly gets diagnosed with depression which "led to the alcoholism, not vice versa" (Tim Stevens, Psych Ward: Iron Man, http://marvel.com/news/comics/5074/psych_ward_iron_man, January 21, 2016).

- 73 One could argue that there are certain other narrative elements that code Stark as 'queer', such as *The Confession* being structured like a belated confession of love to Steve Rogers, Captain America, or rather to his dead body. A less known example would be a storyline in which Stark allegedly died, published in 1992 at the height of the AIDS hysteria, in which "widely cirulated" rumors "that Stark had tested positive for the *HIV virus*" are mentioned (*Iron Man* 284; emphasis in original). At the time, the virus was still mostly attributed to homosexuals.
- **74** Invincible Iron Man 503 (Iron Man, vol. 5). The villain in question is Otto Octavius, Doctor Octopus, a known villain primarily of Spider-Man.
- 75 Cf. Weltzien 232.
- **76** Genter 969.
- 77 Ironically, the woman Stark was flirting with thinks he leaves her because he "has a midnight date with some other gal! Darn her lucky hide!"
- 78 Every issue of the arc begins with a page where the text, a monologue by Stark himself, highlights his "good life" and how "lucky" he has been, a claim that gets increasingly absurd as his life, shown in a regular grid of six panels, falls to bits; the last issue, 30, closes with the same monologue, this time laid over panels of Stark burying the sentient armour.

- Sanderson, Peter. *The Marvel Universe*. New York: Harry Abrams, 1996.
- Scott, Kevin Michael, Ed. Marvel Comics' Civil War and the Age of Terror. Critical Essays on the Comic Saga. Jefferson: McFarland, 2015.
- Stroud, Scott. "Technology and Mythic Narrative: The Matrix as Technological Hero-quest". *Western Journal of Communication*. 65.4 (2001): 416-441.
- Veloso, Francisco, and Bateman, John. "The Multimodal Construction of Acceptability: Marvel's Civil War Comic Books and the PATRIOT Act". *Critical Discourse Studies* 10.4 (2013): 427-443.
- Wallace, Daniel. *Iron Man Manual*. San Rafael: Insight Editions, 2013.
- Weihe, Richard. *Die Paradoxie der Maske. Geschichte einer Form.* Munich: Fink, 2004.
- Weltzien, Friedrich. "Masque-ulinities: Changing Dress as a Display of Masculinity in the Superhero Genre". *Fashion Theory*. 9.2 (2005): 229-250.
- White, Mark D. "Teaching Ethics when Hero Battles Hero". Marvel Comics' Civil War and the Age of Terror: Critical Essays on the Comic Saga. Ed. Scott, Kevin Michael. Jefferson: McFarland, 2015: 189-199.

Works Cited

- Brownie, Barbara and Graydon, Danny, Ed. *The Superhero Costume: Identity and Disguise in Fact and Fiction*. Bloomsbury: London et al., 2015.
- Campbell, Joseph. *The Hero with a Thousand Faces*. Princeton: University Press, 1968.
- Davidson, Ryan M. "The Superhuman Registration Act, the Constitution, and the Patient Protection and Affordable Care Act". *Marvel Comics' Civil War and the Age of Terror: Critical Essays on the Comic Saga*. Ed. by Scott, Kevin Michael. Jefferson: McFarland, 2015: 11-25.
- Feuerlicht, Ignace. "A New Look at the Iron Curtain". *American Speech* 30.3 (1955): 186-189.
- Genter, Robert. "With Great Power Comes Great Responsibility": Cold War Culture and the Birth of Marvel Comics". The Journal of Popular Culture 40.6 (2007): 953-978.
- Lee, Stan. "When the Golden Avenger was Gray". Marvel Masterworks. The Invincible Iron Man (by Stan Lee, Don Heck, Jack Kirby, Steve Ditko): 188-189.
- Mangels, Andy. *Iron Man: Beneath the Armor*. New York: Del Rey, 2008.
- McClancy, Kathleen. "Iron Curtain Man versus Captain American Exceptionalism: World War II and Cold War Nostalgia in the Age of Terror". Marvel Comics' Civil War and the Age of Terror: Critical Essays on the Comic Saga. Ed. by Scott, Kevin Michael. Jefferson: McFarland, 2015: 108-120.
- Rieder, Travis N. "The Literal Making of a Superhero". *Iron Man and Philosophy. Facing the Stark Reality*. Eds. E. White, Mark D. Hoboken. The Blackwell Philosophy and Pop Culture Series, New Jersey: John Wiley & Sons, 2010: 38-49.