Personalising the dilemma: research ethics in fiction

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Abstract
Learning about research ethics and research integrity is greatly facilitated by case studies, which illuminate, ground and personalise abstract questions. This paper argues that fiction can provide similar learning experiences, incarnating ethical dilemmas through a medium that is highly accessible yet sophisticated in its depictions of how researchers behave. Examples of fictional illustrations are given to illustrate various themes such as animal experimentation, exploitation of the vulnerable, researcher bias and research fraud.

Keywords
Research ethics, informed consent, data integrity, research collaboration, fiction

Introduction
Western fiction is littered with examples of unethical research, from Shelley’s Dr Frankenstein or Well’s Dr Moreau (known for their creative use of spare body parts and animals) to contemporary speculative fiction featuring superheroes. Anyone who has seen a Marvel movie will be aware that superhero origin stories often involve a laboratory presided over by a cackling evil scientist happily ignoring all ethical restraints. The character of the unethical researcher is stereotypically set in fiction according to the Faustian trope, with arcane or dangerous...
knowledge being gained through taking liberties with process and consent (Haynes, 1994). Much posthumanist fiction points out the risks of enhancement (Gomel, 2011), whether due to uploading minds into Artificial Intelligence (AI) systems, or altering consciousness, or cloning (Crew, 2004).

Weaver and Menzies (2015), examining the theme of medical research appropriated by military/political powers for purposes of genetic engineering, claim that informed consent can be taught through the US TV series *Dark Angel*. Much the same can be said about almost any cultural product that draws from the enhancement trope. As a plot driver, the overstepping of ethical boundaries is fairly ubiquitous, but specific research ethics topics such as ensuring the validity of research data, respect for human and animal subjects/participants, or the need to safeguard vulnerable populations, all sound rather less exciting and are rather less commonly found in fiction or visual media. There has not been a great deal on the specific topic of teaching research ethics through fiction, or indeed much fiction in which these topics occupy a significant portion of the text. This is a pity, given that fiction provides a useful space for a nuanced incarnation of hypotheses relating to the ethical behaviour (or not) of researchers.

‘Misconduct discourse’ has been called repetitive, predictable and abstract, whereas analysing such misconduct through novels offers a multidimensional approach within the context of how ‘knowledge is currently produced and valued’ (Zwart, 2017; Dilevko and Barton, 2014). It is not so much plot but the personal that gives fiction, TV and other media utility in teaching ethics. Hypotheticals and case studies are a ubiquitous teaching aid, and fiction can offer impactful explorations of such cases. Emphasising the thrilling or scandalous might be one way of encouraging a keener focus on ethical issues. As well as being highly entertaining, fiction (and TV and film) can offer insights into ethical issues in a particularly accessible manner, the usually emotive intent of such media creating ‘relatable’ characters that encourage the researcher to identity with the dilemma.

In short, fiction personalises the dilemma, layering it with emotional intensity. It can be a powerful medium for encouraging a more direct response, as will be shown in examples from animal experimentation, clinical trials, safeguarding and sexual harassment, the exploitation of vulnerable research participants, researcher bias, personal data protection and fake data.

**Animal experimentation**

Kafka’s 1917 *A Report to an Academy (Ein Bericht für eine Akademie)* is voiced by the text subject, the primate Red Peter, himself. It is an effective reminder to the researcher of the cost-benefit ratio of experimentation on live subjects.

We can compare two fictional approaches that utilise emotions in such a way, the first less successful in terms of persuading the reader to consider animal ethics more intently, the latter more so.
Karen Joy Fowler’s 2013 novel *We Are All Completely Beside Ourselves* is based on a real-life experiment by Winthrop and Luella Kellogg, who raised their son alongside a chimp. Chiefly a tale of identity and loss, the novel does however raise two issues relating to research ethics. One is, whether scientists should use their own children in their research – given the female protagonist’s not altogether happy life, the answer is clearly in the negative; the second is whether animals, particularly primates, should be used as research subjects. The novel offers a rather laconic page on the historically inhumane treatment of primates in research labs, noting their ‘endless, fathomless misery’ (Fowler, 2013), but never quite hits hard on the topic of whether animal experimentation is admissible within increasingly stringent regulation (Codecasa et al., 2021). Saunders’s 2000 story ‘93990’, describing a fatal toxicology experiment on 20 macaque monkeys, is even more detached, written in the style of a lab report.

By contrast, Thomas’s (2006) *The End of Mr Y* offers prose that is highly visceral. Her protagonist in this novel comes to inhabit the mind of a mouse. Her pages-long depiction of the suffering of lab mice, trying to breathe, surrounded by mazes and mice corpses, unable to sleep due to the laboratory lights, is highly effective in layering animal experimentation with emotional intensity. Thomas attempts to describe what this might feel like from the point of view of the mouse:

> . . .the pain of the needle and the pain of the tumours and the blindness and trying to lick off your own blood when it’s still pouring out of you and being left with your legs and back broken in a pile of other broken bodies. (Thomas, 2006: 435)

Thomas’ novel might therefore in part be suitable in teaching research ethics, ie persuading the reader to consider animal ethics questions.

**Clinical trials**

Fiction can also help research *participants* understand the potential pitfalls of their situation in novels featuring clinical trials (Dresser, 2017). David Gilbert’s 2004 novel *The Normals*, in which the protagonist signs up for a dangerous drug trial for a new antipsychotic drug, references the so-called ‘medical experiments’ of Mengele at Auschwitz. Such references might seem exaggerated, yet these volunteers are seen chewing their own tongues. Presumably they are desperate enough, like the protagonist Billy, a ‘pitiful’ man, not to care about the dangers of the trial. The novel reminds researchers that their participants may, despite giving ‘informed’ consent, not be rationally assessing risk (Gilbert, 2004). The novel even invites the reader to draw an emotive parallel between these human participants and the rabbit subjects in the nearby animal research laboratory.

The context to *The Normals* is the cost-benefit ratio of research, or how ethically to judge whether the utilitarian approach towards benefitting the many through medical advances justifies the occasional fatality at a human clinical trial.
Sinclair Lewis’s 1926 novel (influenced by the influenza pandemic), *Arrowsmith*, examines a particularly topical Covid-related issue; that of using untested therapies in an emergency situation (the novel features an outbreak of bubonic plague). Arrowsmith must decide where he stands, arguing ‘that he would not yield to a compassion which in the end would make all compassion futile’ or be ‘tempted to... give up the possible saving of millions for the immediate saving of thousands’ (Lewis, 1953: 34.1). *Arrowsmith* provides a good example of the usefulness of literature in providing fictional yet germane characters who exemplify issues likely to be faced by scientific researchers. As such it functions as a fictional (and very readable) primer on ethical dilemmas and interesting hypotheticals (Burgess, 2020; Choo, 2021).

### Safeguarding and sexual harassment

How participants are treated, and the issue of safeguarding, particularly of the vulnerable, in research studies, are ethical principles that the researchers in *We are all completely beside ourselves* ignore. A blurring of boundaries, albeit not with minors, is very much the theme of TC Boyle’s 2004 *The Inner Circle*, which looks at the issue of research integrity through depicting the years leading up to the 1948 publication of *Sexual Behavior in the Human Male* by Alfred Kinsey, that is, the latter’s work at the Institute for Sex Research. The text focuses on the men (and wives) who, beguiled by Kinsey’s charisma, become part of the experiment they are researching.

The novel fictionalises Kinsey’s work from the view of his assistant John Milk (a character allegedly based on Kinsey’s chief research assistant Clyde Martin). Milk comes to realise that Kinsey’s research advances his personal agenda – that is, Kinsey’s own sexual appetite. His research into sexual mores provides a convenient pool of sexual partners.

Kinsey’s research certainly crosses several ethical boundaries, with Kinsey indulging in sexual relationships with his graduate students and with Milk himself. Kinsey’s argument is that his researchers have to be sexually uninhibited, without any sexual hypocrisy (Boyle, 2019: 394) – not a justification that would hold up to ethical scrutiny.

Kinsey’s obsession with his research means that he even blackmails Milk’s wife in order to get her sexual history for the study, an entirely non-consensual participation (Boyle, 2019: 157) which can also be described as sexual harassment in the context of Kinsey’s research area. When his own wife is about to have sex with Kinsey, Milk finally revolts against his mentor, realising that research collaboration has become almost a cult-like activity under Kinsey. Boyle, when explaining why his novel focussed on Kinsey’s power, suggests that Kinsey has far too great a dominance over his research participants and colleagues:
It was his power that interested me. Firstly to persuade all these average people to give out their sexual histories to him and trust him as though he were their doctor. And further, to then involve this small, select group in his libertine sexual mores; so that even if a character like ‘John Milk’ has some scruples and some second thoughts, they’re all buried in this wash of reassurance and the charisma of Kinsey, who controls their destiny in some way (Brown, 2004).

Milk even likens his former mentor to a ‘cannibal’, ‘growing ever greater with the subsumed spirit of each of his successive victims’ (Boyle, 2019: 52), providing a novel that is highly suitable for discussing power differentials in research ethics and particularly the need for safeguarding research participants, including from sexual harassment.

**Exploiting vulnerable research participants**

John Le Carré’s 2011 novel *The Constant Gardener* looks at another form of unequal power within the researcher/participant relationship. The novel deals with the unethical outsourcing of clinical trials of an anti-tubercular drug, dypraxa, to Africa by KVH, a global pharmaceutical company. Improperly tested, the drug throws up fatalities. Financial pressures to rush such a lucrative drug to market catalyse a conspiracy to cover up the issue that extends to murdering Tessa Quayle, a human rights activist investigating KVH. Tessa’s papers, examined after her death, reveal that many of the drug trials ‘lack essential features of design to achieve an unbiased assessment of therapy’ (Le Carré, 2001: 263). The ‘tests had been selectively designed. They hadn’t covered all the side effects. . .too intent on getting their product onto the market ahead of a competitor’ (Le Carré, 2001: 268).

Le Carré describes a vulnerable African population bribed into participating in unethical trials to which they are not really giving informed consent. KVH’s participants ‘theoretically gave their informed consent to the treatment’, but what this means really is that:

. . .their signatures are on the consent forms even if they cannot read what they have signed.
They are. . .generously recompensed. . .(and) if they complain they are threatened (Le Carré, 2001: 409-10).

The novel notes that ubiquitous corruption on the continent means ‘a validation by top medical opinion-leaders could be bought for twenty-five thousand dollars’ (Le Carré, 2001: 352). The issues with the trials are summarised thus:

The side effects are being deliberately concealed in the interest of profit. . .the world’s poorest communities are used as guinea pigs by the world’s richest. . . . legitimate scientific debate of these issues is stifled by corporate intimidation (Le Carré, 2001: 410).

Chemist Lara Emrich, realising she has signed a contract giving the pharma company control over all her communications about the drug, public or private, loses
her job (and her career) when she attempts to go public with her concerns about possible side effects from dypraxa. She watches powerlessly as her own research is repackaged to ‘prove’ that the drug is safe. Her university is also seduced by KVH offering shares in future dypraxa profits to ‘those who are loyal’ (Le Carré, 2001: 413), as well as a 25-million-dollar new biotech building.

In Ann Patchett’s 2011 *State of Wonder*, the research team in this case are working with another vulnerable population, a Brazilian tribe who allegedly hold the key to some significant pharmacological advances in malaria prevention, and fertility. The research team firstly test drug compounds on themselves, then infect some of the tribal men with malaria to test the efficacy of their drugs. When a protest is raised about the lack of informed consent – and the safeguarding of a vulnerable population against exploitation – one medical researcher responds:

> Don’t make this out to be the Tuskegee Institute. Chances are excellent that these men have had malaria before, or that they would have had malaria eventually. The difference is that when they get it in this room we’re also going to cure it. (Patchett, 2011: 347).

Novels such as Patchett’s and the above fictional reaction from a medical researcher could help sensitise students to justifications which put the interest of science over the interest of individual research participants.

**Researcher bias**

The researcher’s relationship to participants is a theme addressed in Alice Walker’s 1998 novel *By the Light of My Father’s Smile* (1998). The anthropologist researcher who studies the Mundo tribe and who ‘wants to learn’ from them (Walker, 1998: 113) is depicted as lying about his credentials to obtain research funding from a church group. This aside, worse damage is caused by his starting to believe his own fake identity; he seems to adopt a straightlaced pastor persona which he at times applies to his research participants. Ostensibly admiring the Mundo, wanting to understand their philosophy of ‘how to live in a way that permitted others to live as well’ (Walker, 1998: 113, 117), he reverts to rage when his own daughter decides to sleep with one of the tribe. Although she is only 15, the debate is clearly less about under-age sex – the novel unapologetically promotes sexual liberation – but more about colonial researcher bias (June, 2011: 613).

Walker’s novel raises the issue of research integrity, of research unethically undermined by, or co-opted to, a personal agenda. One rather extreme example of this is the unethical psychology ‘trial’ described in Hendricks’ and Pekkanen’s (2019) *An Anonymous Girl*. Psychiatrist Dr Lydia Shields has, rather ironically, designed a study on ethics as a means of testing the ethics of her own (cheating) spouse. Shields recruits ‘subject 52’ (whose own ethics are questionable, and so perfect for the study) and manipulates her into honey-trapping Shields’ husband.
Subject 52, when she refuses to continue, ends up losing her own love interest, her job and reputation, and nearly her family.

Researcher bias is a charge that has been levelled at Kinsey, both in terms of personal agenda (i.e. his need to find willing sexual partners) but also in terms of an innate set of biases that affect the direction and scope of the study. This is a nuanced criticism, however: while it can be argued that ‘Kinsey never recognised that by asking certain questions rather than others he committed himself to a particular conception of sexual life, which, while “objective” in the sense that it did not contradict the facts, was nonetheless partial’, it can also be argued that it is a ‘common failing and quite defensible’ (Robinson, 1972).

Personal data protection

Boyle’s novel *The Inner Circle* includes a scene in which Milk breaks into Kinsey’s files and cracks the coded entries to reveal the names of participants, all to advance his own sexual pursuit of one of Kinsey’s research participants. This from a researcher who knows that ‘security was the cornerstone of the project’ (Boyle, 2019: 64). The reader may accept Milk’s regret at his actions, but when he repeats the offence some years later to access his wife’s confidential history, we realise that Kinsey’s blurring of the lines between the personal and the professional encourages Milk to ignore them too.

The novel looks at the confidentiality of personal data in two ways, discussing not only patient privacy, but also at the ethical sourcing of data. Kinsey allegedly looked at data collected by two paedophiles, Rex King and Fritz von Balluseck (Ulin, 2004). Whether the allegation that Kinsey ‘shielded’ such men is true is an argument outside the scope of this article. However, the impact on Kinsey’s reputation, particularly in the last two decades, of this allegation has been considerable. Milk is forced to defend this ‘condoning’ of King thus: ‘it’s already happened . . . and there’s nothing I or anyone else can do about that’ (Boyle, 2019: 256). Whereas the importance of keeping strict confidentiality is obvious, given the intensely private sexual details communicated to Kinsey and his team, does that extend to keeping data obtained from criminals, confidential?

Fake data

Checking the source of data is an obvious lesson for researchers. In Atkins’s (2017) novel *The Night Visitor*, historian Professor Olivia Sweetman hopes to publish a biography based on a fascinating discovery – a diary allegedly written by a pioneering 19th-century female surgeon. In her hurry to write a bestseller that will boost her career, Sweetman’s research is careless, even unethical, even if unconsciously so. She does have the ink of the diary analysed to check it is of the right period, but
never interviews the sole remaining member of the family to which the diary’s author belonged – or she would have been told that the diary had never existed. Sweetman is aware that history is littered with hoaxes and realises eventually that the diary she discovered is not authentic; but rather than abandoning her research argues that, although the diary is a fake, the spirit of the story it tells, about a pioneering female doctor, one of the first to go to medical school in England, can be defined as true, if not accurate. This disingenuous view however avoids the point that Sweetman is staking her academic reputation on the diary’s validity as an historical artefact. Although she accepts that ‘integrity is everything in academia’ (Atkins, 2017: 311), it suits her not to question the diary’s provenance too deeply.

To complicate matters, the diary has been faked by Dr Vivian Tester, to whom Sweetman leaves most of the diary fact-checking and on whom she relies far too much, so suggesting another aspect of research integrity – claiming credit for the work of one’s research assistant.

Tester lost her own research career years ago by perpetrating a similar fraud, attempting to justify her actions in falsifying data thus:

I was almost sixty and the department wanted to get rid of me. You can’t be the lone scientist in the lab nowadays. It’s all about income generation. . . .There was enormous pressure. . . . I really don’t have the patience or aptitude for that. . . . I just wanted to get on with my research. I realised I was going to have to produce a piece of research with huge international repercussions. (Atkins, 2017: 319).

Tester’s faking of the diary that will ruin Sweetman’s career is a way of revenging herself on Sweetman’s father, a former colleague whom she alleges claimed credit for her work. Sweetman might be seen only as guilty of sloppy research; Tester is a deliberate deceiver. The researcher lessons are clear: don’t skip the hard work, verify and verify again, and don’t exploit your research colleagues.

The issue of researchers demonstrating integrity in collecting their research data – or not – can appear in texts in which researchers falsify data when caught up in the need to secure their academic position, and/or reap the rewards of their research, whether that be fame or commercial success.

For example, in Goodman’s (2006) Intuition, a team researching a cure for cancer find a potentially promising line of research, causing the team to rush an article into print and cultivate media attention (Lowry, 2009). When it is revealed that the data may not be quite as conclusive as has been stated, the question is of whether the researcher is a fraud, merely a careless scientist, or swept up in the fever of the team anxious for funding grants. Or is the scientist who discovered the alleged fraud simply a jealous colleague, and the data not in fact that questionable? The issue is deliberately obfuscated to make Goodman’s point, that knowledge may not always only mean ‘data’ but reflects the intuitive thoughts and personal bias of those working with it, as well as the context within which researchers are operating.
Goodman’s theme actually turns out to be the strangely ‘feudal’ world of the research laboratory, a kind of ‘prison workshop’ in which postdocs just:

‘kept on working. Like scientific sharecroppers, they slaved all day. They were too highly trained to stop. Overeducated for other work, they kept repeating their experiments. They kept trying to live on their seventeen-thousand-dollar salaries’ (Goodman, 2006; Lieff Benderly, 2006).

A theme in Lewis’s *Arrowsmith* is that of pressure on researchers to act unethically for personal gain. The eponymous hero must resist the temptations of money, power and fame (research pursued for lucrative reasons) to pursue his original goal of medical research to benefit humankind. As such, his career is an object lesson to young researchers. As one clinician-writer notes: ‘You should read *Arrowsmith*, I have long told aspiring clinician-scientists I interview, as a way of getting them to think about which of the two career tracks drives them more’ (Eisenman, 2020), the fame and power or the benefit for humankind (One might argue however that researchers can do both).

**Where next?**

The fairly narrow focus of this paper was intentional, given that the broader theme of ‘things we might learn about ethical research’ is a cross-generic theme; science fiction novels often focus on enhancement themes and on scientist-researchers forced to choose between personal gain and saving the world.

A less-considered crossover would be the campus novel. Although this Western-centric genre is heavily weighted towards depiction of researchers in the humanities, particularly English literature and creative writing, it frequently examines the issue of commercial pressure on academics to justify their research, leading to some compromised principles. The genre also has some amusing portraits of cutthroat competitiveness amongst researchers happy to sabotage their colleagues’ research in order to prioritise their own funding and career prospects. The theme of plagiarism also occasionally appears, as in Pascal Mercier’s 2012 *Perlmann’s Silence*, in which a linguistics professor panicking about delivering a keynote speech ‘borrows’ a colleague’s research.

Then there is crossover with the feminist novel. The revisionist novels of Theodora Goss provide both a feminist and science fictional view of a lack of ethics from the point of view of the female research participant. Goss’s *The Strange Case of the Alchemist’s Daughter* (2017), *European Travel for the Monstrous Gentlewoman* (2018) and *The Sinister Mystery of the Mesmerizing Girl* (2019) pose the question, ‘why did so many of the mad scientists in 19th century narratives create, or start creating but then destroy, female monsters?’ (Liptak, 2017). The narrative proceeds from the view of the ‘monsters’ themselves – Catherine
Moreau (formerly a puma), Justine Frankenstein, reanimated as a partner for the Dr Frankenstein’s original creation, Beatrice Rappacini, raised by her father to be immune to poison, and Lucinda van Helsing, another victim of non-consensual biological transmutation. Such feminist revisionist novels remind us that science has historically been patriarchally driven, with recent studies arguing that male doctors lean on gender stereotyping to assume women’s pain, for example, to be less than men’s (Perez, 2019). There is a timely reminder here of the need for diversity in research teams.

Which is obliquely the issue in Brandon Taylor’s 2020 novel *Real Life*, in which the protagonist has to deal with a problematic group of colleagues who seem casually and even overtly racist towards him. His team leader tells him his work is only acceptable due to the colour of his skin (Taylor, 2020: 98), while others call him a misogynist (he is the only male in this 6-person team). The point is that such labeling of colleagues blurs the efficacy of their work – is he really lazy and an inept scientist, or merely seen as such by the others due to their cultural bias? Is his team an illustration of failed neutrality?

This broad question extends the discussion of researcher integrity into a rather broader and grey area of what can be expected in terms of researcher awareness of their own motives – less a subject for research ethics than for literature, perhaps. The researcher forced into a difficult situation and trying to work out where the truth lies and what their own motivations are is only part of the theme of identity in fiction. Perlmann, for example, in Mercier’s novel, realising his lack of research integrity is about to be exposed, moves from anguish at his major error to a question of who he really is, once his academic identity has been compromised. The text becomes less about a moment of research fraud, than an enquiry into the self.

**Conclusion**

Novels depicting a range of key research ethics and integrity topics from the exploitation of vulnerable populations to fake data and animal experimentation show that fictional examples can personalise moral dilemmas in ways previously the sole purview of case studies. Novels can therefore be a powerful medium for encouraging reflection on ethical dilemmas in research. I would therefore like to conclude this paper by recommending further reading, for anybody who either faces research ethics and integrity dilemmas, or who teaches these topics:

1. Djerasi, C (1991) *Cantor’s Dilemma* – a biologist delegates his research tests to assistant Dr Jeremiah Stafford. Does Stafford fabricate results in the rush towards a Nobel prize?
2. Stapel, D (2012) *Derailment* – a real-life first-person account of a behavioural sciences professor who admitted to fabricating his own data.

3. Cronin, J (2010–16) *Passage* trilogy – military research into a bat-derived virus intended to create an immune-enhancement drug leads to the creation of lethal vampiric creatures.

4. Yanagihara, H (2018) *The People in the Trees* – an ambitious researcher exploits a Micronesian tribe with a valuable genetic secret.

5. Boyd, W (1990) *Brazzaville Beach* – chimp research takes a violent turn.

6. Scholz, Carter (2002) *Radiance* – a physicist navigates the various agendas of the nuclear defence industry.

7. Preston, D (1994) *Jennie* – reading of a chimp raised in a human family leads the reader to question an anthropologist’s motivation.

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