My Identity Is Important:
On The Identity/Information Dyad, Its Elucidation And Relevance

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Certificate Of Authorship

I hereby declare that this submission is my own work and to the best of my knowledge and belief, understand that it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Charles Sturt University or any other educational institution, except where due acknowledgement is made in the thesis [or dissertation, as appropriate]. Any contribution made to the research by colleagues with whom I have worked at Charles Sturt University or elsewhere during my candidature is fully acknowledged.

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“The Argument Of Emergence: Converging Technologies And Emergent Ethical Concerns”, 16th International Conference of the Society for Philosophy and Technology, July 8-10, 2009, University of Twente, Enschede, The Netherlands.

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questions about my work and challenging me when the answers made no sense.
My Identity Is Important: On The Identity/Information Dyad, Its Elucidation And Relevance

This thesis argues that apparently morally innocuous personal information warrants serious moral consideration. To argue this, I firstly show that much personal information is currently not treated as morally serious. Secondly, I argue that personal information is, in fact, morally serious. Finally, given its moral seriousness, I present a set of principles on how personal information ought to be treated and demonstrate that the moral seriousness of personal information can be captured by reference to identity. This claim has two core premises: firstly, that identity and personal information are related. Secondly, as a result of this relation, certain personal information is morally serious, and ought to be treated as such.

The discussion is framed by reference to new and converging technologies that produce personal information which seems morally innocuous. Existing conventions like privacy and ownership are not equipped to give clear and principled ethical justifications as to why we should care about innocuous personal information. Because the common conceptions of privacy are typically viewed in isolation from each other, such approaches are of limited use in dealing with new technologies. Exploring a set of case examples, I give reasons why a non-reductionist account of privacy is better able to respond to innocuous personal information. Similarly, ownership’s usefulness is constrained when it comes to innocuous personal information. This is because the common moral foundations for ownership claims, instrumental value and intrinsic rights, cannot properly recognise the value of innocuous personal information.

To explain why personal information is a morally relevant concern, I develop an account of identity focussing on cognitive processes before presenting a taxonomy of identity types and demonstrating how these identity types ultimately impact on a person’s self-development and quality of life. Exploring philosophic approaches to information as data that is well ordered, meaningful and judged to be true, I show how existing states of mind effect how a person constructs information. The discussions of identity and information are then brought together. My claim is that identity and information stand in a relation of mutual causation to each other, a relation I call the identity/information dyad.

Bringing the discussion back to new technologies, I suggest that the identity/information dyad presents a principled of demonstrating why we should be
morally concerned about innocuous personal information. Further, the identity/information dyad offers some advice for how convergent technologies should be designed to reduce the moral problems to which I have drawn attention.
Chapter One: On The Project And Its Motivation

1.0 On The Project: Technology, Identity And Information

In the days leading up to thesis submission, one tends to become a little absent minded. The week before submitting, I lost the cards needed to get into my office. Unsuccessful at finding the cards, I returned to the office thinking of what I would have to do to get new cards. Fortunately, by the time I had got back to my office, someone had found the cards and passed them into a shop. Staff in the shop saw that one of the cards had my name and university listed on it, they used the internet to find my contact details and emailed me. I picked the cards up the next day.

This story is more than a tale of my absent mindedness – it speaks to the ways in which informational access impacts many of our lives. I was lucky as the people who found my cards used the information to get in contact with me. Had the people been malicious, however, they could have used these cards to enter my workplace and steal expensive equipment. In a more troubling event, the cards could’ve been used for identity theft. Rather than equipment being stolen, the combination of a name and staff number on my card could have provided the basis for an identity theft resulting in access to email accounts, mobile phone account, even my bank accounts. I was naturally worried at the loss of these cards, and relieved when they were found and returned.

Like the loss of a swipe card, many practices in modern life create and leave data trails that allow others to identify us, and to use this data in a myriad of ways – commercial, political, social.¹ Such developments in the production and use of information are producing changes in our world. Thomas L. Friedman, for example, claims that informational technologies are bringing about a ‘third era of globalisation’, resulting in a flattening of the world (Friedman, 2006). While many would worry about the loss of a set of access cards, in this ‘flattened world,’ there seems little concern about comparable data trails left online and elsewhere in the world. Our world is changed by new informational technologies but what do these changes mean for us? This thesis examines moral concerns arising from the production and use of personal information. It considers three things:

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¹ To list three examples, in 2011, the Global Positioning System (GPS) company ‘TomTom’ was found to have sold data about the movements of its GPS devices without the GPS owner’s knowledge or explicit consent (Ramli, 2011). The re-election of Barak Obama in the 2012 US election has been partially attributed to the Obama campaign team’s use of data analytics to identify voters, issues and potential campaign contributors (Scherer 2012). Facebook is a paradigm example of social networking-as-data production, and is one of the most popular websites in the world.
1) moral problems raised by new technologies,
2) philosophical approaches to identity and information, and
3) the moral implications of recognising a relation between identity and personal information.

Many new technologies pose moral problems, due in part to the ways that new technologies can alter the way in which we interact with personal information. Identity is a useful tool in two related ways: as an explanatory frame with which to describe the moral importance of personal information, and as a guide to show when and how to treat personal information as something of moral importance. The argument is that new technologies create an ethical vacuum around the use of personal information. Similar to what James Moore refers to as ‘policy vacuums’ (Moor, 2001, 2005), this ‘ethical vacuum’ occurs when there is some lack of explanation between a new technology and moral concerns about that technology. A detailed explanation of the relation between identity and personal information goes some way to filling this vacuum.

This chapter explains the motivation for the project by outlining the use of personal information and showing that the range of uses is expanding. §1.2 digs further into the problem, showing that it is not simply a problem of some new technologies narrowly considered, but that the problem arises due to the development of ethical vacuums. §1.3 explains the formation of ethical vacuums because personal information is thought to be morally inert, due in part to its being viewed as discrete units of information. With a narrow frame of analysis, information impact on people’s lives is limited, and as such, is thought to be morally innocuous. §1.4 contains a brief description of the particular philosophic methodology and terminology used within the thesis. Finally, §1.5 indicates the analysis and resolution of these issues, with a summary of the following thesis chapters.

1.1 On The Motivation: From Medical Records, To Health Records, To Personal Records

Many countries are in the process of developing electronic patient medical records. Australia is currently developing electronic health records for patients, beginning with the passing of the Healthcare Identifiers Act 2010 (Australian Government, 2010), which introduces individual identification numbers, described by the then Minister for Health Care And Ageing Nicola Roxon as “a key building block of the Government’s plans to invest $466.7 million over the next two years to revolutionise healthcare delivery
through the introduction of personally-controlled electronic health records” (Nicola Roxon, 2010). The Australian eHealth program began in July 2012.\(^2\) In early 2009, the United States’ president Barack Obama committed to “a goal of computerizing all of America’s medical records within 5 years as a means of improving efficiency, quality, and safety and ultimately saving money” (Tang and Lee, 2009). In The Netherlands, the goal is to develop “a safe environment in which relevant patient data that is stored in the various healthcare systems can be exchanged and can be viewed as a cohesive whole by authorised healthcare practitioners as an aid in the care processes.” (National IT Institute For Healthcare In The Netherlands, 2005). At a national institutional level, personal medical records are being converted to electronic format, and this push is common across many different countries. Internationally,\(^3\) there are both incentives that push and pull\(^4\) people into electronic health records.

At the same time, private industry is getting access to medical data in order to develop new ways of producing and using aggregated medical data and new ways of producing data that is relevant for healthcare. The United Kingdom is implementing a publicising of governmental data – vast amounts of anonymised National Health Service (NHS) data have been be made available for public access as of September 2012. The stated motivations behind the U.K. program are fourfold:

1. To recognise that people have a right to personal information and a right to maximum choice,
2. To hold government to account,
3. To incentivise private/business innovation, and

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\(^2\) As of July 2012, the Australian eHealth program has been released, see ehealth.gov.au. However, it is operating on an opt-in system to enrol users, and as of the date of writing, has been unsuccessful in getting people to enrol in the program. While this lack of enrolment is due to a host of reasons, it certainly indicates considerable scepticism in such projects – including whether the Australian people trust the government with their data, and whether such programs will actually be useful or not. It should be noted that these eHealth programs have generally been problematic: The U.K. attempt to convert medical records to electronic formats, proposed in 2002, has cost £2.7 billion, and is so far not usable (UK Parliament, 2011).

\(^3\) I have used ‘international’ here to refer to the set of different nation states involved in electronic health records. International institutional order contrasts with ‘global’, which I use to refer to a more cosmopolitan understanding of trans-national institutions. This second position is informed by Thomas Pogge, see *World Poverty And Human Rights*, (Pogge, 2008, p. 175).

\(^4\) I use ‘push’ here to signify the regulatory mechanisms that are being or will be introduced by nation states, which require or strongly encourage patients and health care professionals to convert health records to electronic format. The U.S. for example, may penalise those who haven’t adopted by a given year (Tang and Lee, 2009, p. 1276). Australia, in contrast, have selected an opt in model, whereby patients, clinicians and others are free to opt in to the system, to be ‘pulled in’, as it were, by the proclaimed benefits of electronic health records. As noted above, however, this opt in model does not seem to be have been overly effective so far.
4. To enable public servants to do their job better\(^5\)

Whether governmental, private or a mixture\(^6\) of both (Solove, 2004, p. 3), a key goal of electronic health records is to integrate existing patient information; medical history, current prescriptions, medical interventions and other medical information.

However, in addition to making medical data easier to communicate and access, technologies are expanding what qualifies as information about health. Consider the problem of aging populations in the developed world. As the number and proportion of aged people in populations increase, dementia is also likely to increase in number of sufferers, and possibly in severity (Malloy, Correia et al., 2007, pp. 77-78). Remote patient monitoring and early detection may not only decrease economic costs (Tegart, 2010, pp. 8-9) but can hopefully increase the quality of life for sufferers and carers, whilst reducing costs:

Near the end, my parents were spending about $180 day for home nursing. For just a fraction of their monthly nursing bill, they could have thrown enough blinking sensors and networking gizmos into their house to record and transmit every step, bite, breath, word and heartbeat in their Portland house (Baker, 2007, p. 157).

As the need for treatment and support of those with conditions like dementia increases, there will likely be a corresponding growth in markets interested in exploiting these opportunities by developing novel ways and means of identifying and treating sufferers and supporting their carers.\(^7\)

Personal information, understood as ‘information that relates to a person or group of people in some way’\(^8\) that is not obviously medical is likely to be a key tool in strategies to mitigate the harms of aging populations. Consider the length of time between hearing a close friend or relative’s voice on a phone and the recognition of who is speaking. This lapse between hearing the voice and recognising who is speaking is being investigated as a potential flag for dementia in elderly people (Baker, 2007, p. 168). Another novel method looks at word and grammar use through time. Over a long enough time, one’s writing patterns may indicate a decline of cognitive ability. “[W]ith advanced statistical analysis

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\(^5\) This is a summary of the motivations outlined in §1.1 of a recent UK Government White Paper, where it is stated that the release of government data is “enabling people to make better choices about the public services they use and to hold government to account on spending and outcomes. Transparency is also providing the raw material for innovative new business ventures and for public service professionals to improve their performance” (U.K. Government, 2012).

\(^6\) I refer here to the idea that a clear distinction between international state actors and global non state actors is not a clear distinction. This point is borne out by the third motivation of the U.K’s Open Health program, which is but one example of an expressly public/private partnership involving the use of personal information.

\(^7\) For a recent overview of technologies associated with longevity, see: (Tegart, 2010).

\(^8\) I discuss information in detail in Chapter Five, and in §7.2 develop an account of ‘personal information’ as “information that relates to a person or group of people in some way.”
of different writings, from blog posts to e-mails, researchers (or even employers) may pick up the downward trend of our cognitive skills long before we even suspect it” (Baker, 2007, pp. 177-178). In the near future, homes may be filled with sensors and monitors recording our behaviour (Tegart, 2010, pp. 11-35). Things like toothbrush sensors, ‘magic carpets’ that analyse balance and gait, motion detectors that monitor how long one stays in bed (Baker, 2007, pp. 154-181). Even patient non-compliance with prescriptions (Albrecht and Mcintyre, 2005, p. 114) can be monitored remotely and could automatically alert health-care providers, family members or others to an elder’s declining capacities. As these examples show, the realm of what could be classified as ‘medical information’ is expanding far beyond what a patient shares with their doctor in a consultation or treatment. Underpinning this is a larger claim that personal information is changing with the technologies.

What are the causal factors through which technology can change information? There are (at least) two separate, but related, factors. First is the rise of convergent technologies. Here, I follow the U.S. National Science Foundation that describes convergent technologies as “the synergistic combination of four major “NBIC” (nano-bio-info-cogno) provinces of science and technology” (National Science Foundation and Department Of Commerce, 2003). These technologies not only produce more relevant information about things and people, but are also being developed with the capacity to share information across the different technological domains. Advances in nanotechnology produce information that supports cognitive technology, and when coupled with biotechnology, produces a wealth of transdisciplinary data, ready for analysis by advanced informatics (Cheshire Jnr, 2008; Hook, 2008).

The second causal factor is that this information, gleaned from a host of different disciplines, can now be collected and shared between people that were once separated from each other, either by discipline, geography, time or language (Nissenbaum, 2009, pp. 21-35). For instance, the development of electronic medical records is astounding because of the wealth of information that it may use, because of the diversity of sources of this information, and also because of the incredible range of

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9 Chapter Five presents an extensive and detailed philosophical analysis of information, and will substantiate what I mean when I say that personal information itself is changing, and show the specific processes that bring about these changes.
people who can access, use and ultimately benefit from this information. The U.K. Open Health is a paradigm example of this.\textsuperscript{10}

Discussing convergent technologies and information is important as the standard ways that we have dealt with medical information may no longer be able to provide clear guidance on how we ought to act in the face of changes in information. Consider informed consent\textsuperscript{11} to treatment, a central issue in medical bioethics.\textsuperscript{12} If a government penalises a medical practitioner for not converting their patient records to electronic format, has the patient in any way meaningfully consented to this? If an important factor in informed consent is that a health care assessor give information of any conflict of interest (Beauchamp and Childress, 2001b, p. 75), how can a remote private company accessing the U.K. Open Health platform meaningfully meet this requirement? These concerns don’t even touch on the complex issues arising from in house remote monitoring, dementia and meeting the standards of patient competence necessary for informed consent to be meaningful (Beauchamp and Childress, 2001b, pp. 73-77).

Further, a key change wrought by convergent technologies is that electronic health records are digital, so are typically\textsuperscript{13} neither reduced by use nor limited by use-by dates: an electronic database can be accessed perpetually without any decline in the information. Assuming that the database remains stable, and the technology is accessible and reliable, repeat use and access have no necessary effect on the information quality. Compare information to a pie. For each piece of pie eaten, there now remains one less piece of total pie. Likewise, as time passes, the pie gradually becomes less edible, losing flavour, nutrition, probably becoming toxic and ultimately ceasing to be food. Information in databases should not face such degradation through access or time. “[I]nformation doesn’t wear out. It [can] be endlessly recycled [and] ...

\textsuperscript{10} For example, three services arising from the UK Open Health initiative, and already available through the ‘data.gov.uk’ website, are Dr Pocket: “Dr Pocket is a company that uses public information about hospitals, doctors and organisations in health to help people find the best GP for them”, The London DataStore: “Available for free use and reuse, however people see fit, the London Datastore has joined up with 4iP to create a development fund to encourage developers to use the raw data to develop apps, websites and mobile products” and Health iQ: “Health iQ is an analytics consultancy that works across healthcare and life sciences, who helped Healthcare for London to develop a specialist stroke service.”

\textsuperscript{11} Rather than framing this as in issue of informed consent, this could be equally covered by reference to patient confidentiality – a point returned to in §1.2. The basic issue about redundancy of key concepts in medical bioethics remains the same.

\textsuperscript{12} Tom Beauchamp and James Childress describe informed consent as typically having seven elements; competence, voluntariness, disclosure, recommendation, understanding, decision and authorisation (Beauchamp and Childress, 2001b, p. 80).

\textsuperscript{13} This claim is perhaps controversial, as it presumes that the technologies have stable software and hardware, that do not alter the information when it is accessed, and remain accessible through time. Further, as I argue in Chapter 5, \textit{semantic} information is multirealisable, so the information can change depending on its use. However, the general claim of ‘non-depletion by use’ stands.

repackaged” (Drahos and Braithwaite, 2002, pp. 58-59). Given this, there is a large amount of uncertainty about what medical information in databases\(^{14}\) may be used for, in the near and distant future. As such, those who request and provide the source information surely cannot know exactly what they are consenting to; technologies are impacting on how we apply a principle like informed consent.

Informed consent was selected to display a larger concern about simply applying standard medical bioethics principles to broader issues arising from convergent technologies: The basic concern is that as the traditional patient-professional relationships break down and reconfigure themselves in the face of new technology, do we simply say that the key medical bioethical principles like those offered by Beauchamp and Childress\(^{15}\) are now outdated? Should we jettison all principles in medical bioethics? With informed consent as with many others, perhaps the problem is not that the principles are wrong or outdated, but in light of technological changes, a new analysis is required of these existing ethical theories.\(^{16}\)

Instead of jettisoning principles like informed consent, perhaps these changes in health related technology mean that we need to ‘rethink’\(^{17}\) the moral values that underpin informed consent? How do we actually go about doing this? A first step in the rethinking is to be clear what we actually talking about, “for the way we conceptualize a problem has important ramifications for law and policy” (Solove, 2004, p. 27). These changes arise not from new moral concerns, but new ways these moral concerns are encountered in response to changes brought about by convergent technologies. But this does not clearly describe the problem. It is not simply the convergence of the technologies, and not even the informational richness coming from the technological convergence. As this thesis will argue, one of the central concerns about these new

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\(^{14}\) This is not a new concern – people working with DNA/biobanks have had to confront it (Clayton, 2005).

\(^{15}\) I refer here to autonomy, nonmaleficence, beneficence and justice, discussed in detail in (Beauchamp and Childress, 2001b).

\(^{16}\) Unsurprisingly, this is not the first such attempt. Take Helen Nissenbaum’s description of her recent research: “The primary mission of this book is to confront and give a moral and political account of this pileup of technologies and practices, to pinpoint and understand sources of concern, and to provide a framework for expressing and justifying constraints” (Nissenbaum, 2009, p. 6). My arguments, however, differ from Nissenbaum’s, discussed in §2.5.3, §2.5.4, §7.4.1.

\(^{17}\) This use of ‘rethink’ here is a reference to Neil Manson and Onora O’Neill’s book *Rethinking Informed Consent*, (Manson and O’Neill, 2007) where they argue that the model of informed consent, like that described by Beauchamp and Childress needs to be revisited.
technologies is that they afford\textsuperscript{18} informational aggregation, which produces what might be called an emergent Virtual Identity.\textsuperscript{19}

As this is a central claim of my thesis, the justifications are expanded throughout Chapters Four, Five and Six. At the moment I will simply describe what I mean by ‘emergent Virtual Identity’ as it relates to health data. As cognitive agents, we can understand aggregated and integrated information as an identity: a particular identity emerges from the aggregation of health data. An essential fact to recognise when assessing the ethical importance of the electronic health records is that a key functionality of digitising health records arises from the capacity to bring information together, to aggregate information from a host of different sources, and to integrate this information into a Virtual Identity. “In the Information Age, personal data is being combined to create a digital biography of us...In short, we are reconstituted in databases \textit{as a digital person composed of data}” (Emphasis Mine, Solove, 2004, pp. 44, 49). While Solove and I differ in the terms we use,\textsuperscript{20} we are both concerned about the same process, “where a multitude of dots juxtaposed together form a picture, bits of information when aggregated paint a portrait of a person” (Solove, 2004, p. 44). The aggregation and integration of information about a person produce something new, a rich and detailed portrait of the person, what I call a Virtual Identity. The time one gets out of bed, the way one walks into their kitchen, the time taken to recognise a voice on the phone: as independent data points they will tell little of interest about the person. But when large amounts of data are accumulated through time, and if these separate data streams are aggregated, a ‘portrait’ of this person emerges.

This Virtual Identity is not simply an aesthetic entity; it can be highly revealing about that person and/or can be used to harm the person. For instance, certain repeated behaviours may set off a series of triggers, indicating that the person is losing cognitive ability, and may be developing dementia. However, once we consider aggregated and integrated personal information as a morally reactive Virtual Identity, the scope of the information that we ought to be concerned about expands dramatically: aggregated and integrated personal information suddenly becomes relevant far outside of the field of

\textsuperscript{18} I talk more about affordances and their special significance to identity and information in Chapter Six. In anticipation of that discussion, I will simply state here that affordances, as used in this thesis, relate to the ways in which technologies can make certain behaviours and/or results easier or harder.

\textsuperscript{19} As mentioned in §1.4, throughout this thesis I develop a number of key terms and use them in reference to a particular set of meanings. Typically, unless otherwise mentioned, I will indicate this by use of capitalisation; Virtual Identity is one such term.

\textsuperscript{20} Solove favours ‘digital person’, while I favour ‘Virtual Identity’. The explanation for this is given in §4.7.
medical ethics. We have now moved from discussing medical information, to health information to personal information.

1.2 Virtual Identity In An Ethical Vacuum?
Standard medical practice typically\(^{21}\) assumes patient confidentiality. That is, what information the patient gives to the medical professional will be treated with due consideration and care, sharing information only occurs with those who need to know. Why is this? The two standard complementary justifications offered are a duty to respect patient autonomy and to reduce bad consequences (Beauchamp and Walters, 1994, pp. 123-130). If a medical professional shares patient information with others, they ought to display respect for the patient by maintaining confidentiality until the patient is consulted. For some people, they may simply not want information about them shared.\(^ {22}\)

Consequences may be considered in two ways: firstly because “violations of confidentiality make patients unwilling to reveal sensitive information” this reduces efficacy of diagnosis and cure, so “in the long run, [this] is detrimental to the health of patients” (Beauchamp and Walters, 1994, p. 129). The second consequential concern is the harms\(^ {23}\) that arise from unequal treatment or discrimination arising from disclosure of personal information: consider the disclosure of a person’s HIV status to the public or to an employer (Beauchamp and Childress, 2001b, p. 293; Solove, 2004, pp. 66-67). In short, medical information is considered confidential by reference to patient autonomy and harmful consequences.

Yet these justifications do not clearly explain why medical information ought to be protected. There are all sorts of personal information that we disclose to others on a regular basis, yet these non-medical forms of personal information typically don’t receive anywhere near the same attention as medical information. Why is medical information special? There is a considerable body of work that argues that there is some special nature of the relationship that between a medical professional and a patient (Alexandra and Miller, 1996, 2009; Beauchamp and Childress, 2001b; Oakley and Cocking, 2001a, 2001b). Perhaps this special relationship is the reason for heavy

\(^{21}\) It should be noted that some, like Mark Siegler, see confidentiality as a fiction (Siegler, 1994).

\(^{22}\) For the ease of reading, I will typically refer to ‘respect for autonomy’ or just ‘autonomy’. As I explain in §1.4, this is in reference to what I consider a common intuition about moral value, that people ought to be respected qua people. Issues of autonomy, basic respect and personal information are covered in §7.4.

\(^{23}\) Similar to the preceding footnote, for the ease of reading, I will typically refer to ‘consequences’ or ‘harm’. §1.4 explains that this is in reference to a common intuition about moral value, that people ought not to be harmed. A taxonomy of informational harms is given in §7.5.
emphasis on, and special treatment of, personal information. However, this leaves the special nature of these sorts of relation unexplained.

Andrew Alexandra and Seumas Miller claim that general professional confidentiality is “derived from the notion of privacy” (Alexandra and Miller, 2009, p. 151). Which brings us to the question, why should medical information be private? As described at the end of §1.1, the aggregation of information produces a Virtual Identity. Aggregated personal information produces a representation of a person, and as this thesis will argue, this entity that emerges is morally relevant. Yet, following the recognition that it is not the ‘medicalness’ of the information, but its capacity to reveal the person and/or harm them, moral concerns similar to medical information can appear anywhere there is aggregation of personal information. And this information can be found everywhere: shopping practices, driving habits, web browser history, court records, employment information, school histories (Nissenbaum, 2009, pp. 36-50). Our lives are lived very publicly these days (Nissenbaum, 1998), and we are largely oblivious to what this means for privacy. Further, with the explosion in social media like Facebook, Twitter and the like, we are not only passively implicated in announcing our lives to the world, many of us are actively involved, willingly uploading personal information to public digestion. Is it any wonder that in 2010 Facebook’s co-founder Mark Zuckerberg declared that privacy was no longer a social norm (Johnson, 2010), and that Google CEO Eric Schmidt recommended that people should just change their name if Google searches won’t allow them to distance themselves from past action (Hearn, 2010)?

This gives us two options – either the past forty years of attention that bioethicists paid to medical information was foolish and there is no moral concern about medical information, or, given the sheer range and amount of personal information being produced and communicated by convergent technologies, there may be no clear way of developing a robust ethical theory to deal with personal information generally. Instead, we must deal with problems in an ad hoc or post hoc manner, by reference to what people want at a given time.

Note that I have used moral and ethical here to relate to two different things. I intend ‘moral concern’ to mean situations where someone makes an ‘ought’ sort of statement, i.e. we ought to care about medical information. Ethical theory, however, is intended to mean a robust and well considered set of theories that explain why we ought

24 Chapter Two covers privacy issues.
to care about something, how we ought to care about something and when we ought to care about something. Though they both track to the same thing – “how should one live” (Kagan, 1998a, p. 1), ‘moral’ is the answer to the question, while ‘ethics’ is working out of the answer. I discuss my account of a moral/ethical distinction in §1.4.

This moral/ethical distinction is important to make, especially in reference to changing understandings of personal information, as the claim that (a) there ought to be no moral concern about personal information is fundamentally different to the claim that (b) there is no robust ethical theory to deal with personal information. Take Facebook as a case in point: As mentioned, the CEO of the popular social networking website proclaimed in January 2010 that privacy was no longer a social norm (Johnson, 2010). Yet there was a backlash against him and Facebook, and in May 2010, Facebook announced it was making it easier for users to protect information they felt was private (Arthur, 2010). So, from this it seems that there is moral concern about how Facebook treats people’s information. So, though we may not have a moral vacuum, perhaps there exists an ethical vacuum: people do care about how personal information should be treated, but they lack a robust and principled set of reasons justifying why personal information should be treated with concern. This ethical vacuum is similar to what James Moore refers to as ‘policy vacuums’ (Moor, 2001, 2005). I have already referred to respect for personal autonomy and consequentialism as the likely foundations of things like informed consent and confidentiality. Maybe we can simply apply autonomy and/or consequentialist concerns to personal information, and we’ll have sorted out our problem. However, as the next section shows, this is not so simple.

1.3 Personal Information And The Failure Of Simple Ethical Theories

As we have seen, new technology can create an ethical vacuum. From this it may be tempting to claim that new technologies produce new moral concerns. This, however, is not necessarily the case. This is for two reasons. Firstly, if ethics (as I described it earlier) is the explication of morality, and if, (as I described it) there is already a moral position on new technology, then what the new technology has produced is not a new sort of concern, rather, it is a gap in the existing ethical systems to deal with the new situations that technology throws at us. Secondly, and following from this point, there may already exist ethical frameworks which we can apply to the new situations. In order to apply them, we must do a few things before our ethical frameworks can actually provide a substantive explanation of the situation. Three steps must be taken to deal
with the new situation: (a) identify the problem, (b) locate foundational moral principles\textsuperscript{25} that can tell us how to deal with the problem and (c) show how the foundational principles produce pragmatic answers to these new-seeming problems.

\subsection*{1.3.1 The Problem: Breaking Information Down}

To identify the moral problems with personal information, let us start with a simple claim like ‘good moral behaviour requires respect for other people’s autonomy and limiting the bad consequences of actions’. The basic principles of autonomy and consequences are the foundations of informed consent and confidentiality discussed earlier. Yet, simplistic references to broad and vague terms like autonomy or consequences achieve very little.\textsuperscript{26} To explain this, let us grant that personal information is important, that it ought to figure in one’s ethical reasoning, as personal information is relevant to either respect for autonomy or consequences. Even granting this premise, simply referring to autonomy or consequences does little to offer any justification as to why we should care about personal information. For instance, simply applying autonomy and consequentialist reasoning to personal information fails due to the capacity to break information down into small discrete units, and then assuming that each discrete unit is either not relevant to autonomy or produces no harm, or negligible harms. In short, discrete units of information become insignificant in any moral assessment.\textsuperscript{27}

In \textit{It Makes No Difference Whether Or Not I Do It} (Glover, 1986), Jonathan Glover presented two ways of reasoning that he believes are flawed: ‘the argument from insignificant difference’ and ‘the argument from no difference’. Glover’s argument from insignificant difference is particularly relevant to this discussion. His basic point is that if each \textit{individual} action or event is morally insignificant, then it would seem to

\textsuperscript{25} By foundational moral principles, I am referring to some principle or principles that typically figure at the foundation of a moral ‘ought statement’. For the purposes of this thesis, I assume that respect for autonomy, bringing about the best state of affairs and the need to treat like-cases alike sit at the base of the majority of moral statements. I discuss this in §1.4. Further, I use terms like ‘foundational’, ‘basic’, ‘primary’ etc. interchangeably.

\textsuperscript{26} In a similar vein, though discussing human rights, James Griffin states ‘we need far more than a list of human rights. We need more than just their names. We must also know their content. But how do we decide it? And we need to know how to resolve conflicts between them’ (Emphases Original, Griffin, 2008, p. 5). Like Griffin, my point is making simple reference to ‘respect’ or ‘negative consequences’ is not, in-itself, enough. I suggest that the role of ethics is to clarify, explain and justify what we mean when we refer to some autonomy violation or undesirable consequences, I explain this more in §1.4.

\textsuperscript{27} I recognise here that Nissenbaum makes the same observation (Nissenbaum, 2009, pp. 241-243). However, given its location in the final three pages of her book, and its location at the start of this thesis, I think it shows that my account is picking up where Nissenbaum leaves off. I make more of this claim in Chapter Two.
follow that an assessment of the actor or the action as a whole should describe them as insignificant, what I call ‘morally innocuous’. In these situations, an individual transgression of autonomy is so innocuous that it doesn’t deserve to be included in moral calculations. Or, looking at consequences, the difference that each individual consequence makes is insignificant, so the total consequences must also be insignificant.

Extending this line of reasoning, Derek Parfit presented underdetermination as a ‘mistake in moral mathematics’ (Parfit, 1987, pp. 67-86). The moral importance of a particular action is undervalued as a result of considering it independently. While he focuses on consequences, Parfit’s description is relevant to both autonomy and consequentialist concerns:

It is not enough to ask, ‘Will my act harm other people?’ Even if the answer is No, my act may still be wrong, because of its effects. The effects that it will have when it is considered on its own may not be its only relevant effects. I should ask, ‘Will my act be one of a set of acts that will together harm other people?’ The answer may be Yes. And the harm to others may be great. If this is so, I may be acting very wrongly (Emphasis Original, Parfit, 1987, p. 86).

The basic claim is that one cannot simply refer to autonomy or consequences to explain why autonomy or consequences are relevant to personal information; a detailed and refined explanation of autonomy and consequentialism and their relevance to personal information must be presented.

1.3.2 Beyond Simple Autonomy Claims

Consider the case of technology and Alzheimer’s disease again, the software that can analyse a person’s writing patterns through time as a way of monitoring and possibly alerting one to their cognitive decline. This analysis is not particularly concerned with written content, rather with analysing the changing patterns of the words and sentences that and thereby gaining information about the person’s ‘cognitive status.’

With the advent of social media, this sort of analysis may not involve any information typically recognised as private: if open to the public, a person’s blog history, or their ‘tweets’ on Twitter, can be accessed and analysed. Consider also a writer for a newspaper, their writings for the past thirty years may be totally in the

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28 An interesting point on this: In early 2010 Twitter donated its archive to the U.S. Library Of Congress (Stross, 2010). So individual ‘tweets’ will now be recorded for the foreseeable future, offering a massive resource for analysis.
public domain. Their writings can be analysed, and if the analysis works, the writer’s cognitive status to be guessed at. In both situations – call them ‘Blogger’ and ‘Writer’ – the possibility arises for a third party to guess at the cognitive status of Blogger and Writer. Further to this, the third party could foreseeably make public announcements on the cognitive status of Blogger or Writer.

Now, if publicly disclosing medical records about a person’s cognitive decline seems like a violation of privacy expressed as autonomy, then this also seems to be a violation of Blogger or Writer’s autonomy: neither have asked nor consented to public disclosure of their cognitive status. So treating like-cases alike would hold that the third party has indeed committed some transgression of Blogger or Writer’s autonomy, in that they have not properly respected Blogger or Writer’s preferences to keep such information from public circulation. The intuition that Blogger or Writer has been wronged by the third party deserves attention. If Blogger or Writer are actually going into cognitive decline as part of the onset of Alzheimer’s disease, it seems reasonable for them to claim that this information ought not be made public knowledge.

However, to uphold such a claim, one would need to show how this was a transgression of the autonomy of Blogger or Writer. Secondly, one would need to show why this was a morally concerning transgression of their autonomy. Now, if one can show how and why we ought to be concerned for a person’s right to control knowledge of their cognitive status generally, one may feel the we (as the ‘moral community’) ought to intervene on the wronged individual’s behalf. Yet this intervention may be unwanted by Blogger or Writer, and may be seen as unjustified interference, the bad end of paternalism. As noted by Solove, “not all individuals want privacy. For example, people may want their names sold to other companies” (Solove, 2004, p. 91). If people willingly and knowingly want their information shared, then it is an interference in their autonomy to prevent this from happening.

The morally concerning transgression of autonomy can be missed if we fall into the trap of insignificant difference: we will not likely see autonomy concerns if we look

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29 Note that the concerns raised by this example are not dependent upon the software actually being able to accurately predict or diagnose a person’s cognitive status. If it is publicly assumed to work as its proponents describe, the moral concerns remain.

30 For the purposes of this example, I am assuming that many people would find the non-consensual disclosure of a person’s cognitive status as a violation of a right to privacy.

31 I recognise here that my uses of ‘autonomy’ and ‘respect’ are somewhat vague. I talk about autonomy more in §1.4, and the rights claims that it generates and how this relates to respect in Chapter Seven.

32 For instance, as Griffin writes, “[t]he decisions relevant to autonomy, the specific moral and political value that I want to explain, are decisions about the life to pursue, and of course not all decisions are about that” (Griffin, 2008, p. 152).
only at individual data points. The trap of referring to *simple* autonomy is that the third party can point to the fact that each individual data point about Blogger or Writer was publically available. This allows the third party to ask: ‘how have I wronged them? There is nothing especially private about a blog, a tweet, much less about an article they published in the local paper.’ Following Glover (Glover, 1986), the transgressions become ‘insignificant’ when considered individually.

Further to this, the third party may continue: ‘anyway, how have I compromised their autonomy? If autonomy relates to the will, and Blogger and Writer willingly put their words in the public space, how have I transgressed their autonomy?’ Finally, with a note of contempt for well-wishing paternalists, the third party may conclude: ‘and who are you to interfere with their wishes? If these people don’t see it as a transgression, and they want to put their personal information out there, how dare you tell them otherwise?’ Joel Feinberg puts this concern eloquently:

[W]hen manipulative techniques are used to open a person’s options and thus increase his freedom on balance, but without his consent...[h]ere indeed a person is “manipulated into freedom,” not with his own connivance, but without his knowledge, and perhaps even against his will...[and] insofar as we force a person against his will into a condition he did not choose, we undermine his status as a person in rightful control of his own life...*we nevertheless violate his autonomy if we force our better conception of his own good upon him* (Emphasis Mine, Feinberg, 1985, pp. 67, 70).

By looking at individual data points, there appears to be no significant transgression of autonomy, and in an effort to protect against such an imagined transgression, it turns out that we may in fact be undermining the person’s autonomy. These transgressions are enabled, or afforded (Ess, 2010) by the ease and speed in which Blogger uploads personal information and Writer’s oeuvre can be accessed and aggregated. But despite no specific significant infringement of Blogger or Writer’s autonomy, still there may be an intuition that Blogger and Writer have been wronged, in a way that ought to concern us and also them.

My point is that considering personal information as disparate data points we overlook the morally concerning aspects of the third party’s actions. By focussing attention at the level of aggregated personal information we begin to recognise *what* has happened and *why* we ought to care: it is at the level of aggregated information that the privacy of Blogger and Writer has been breached.

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33 Note here that this approach recognises and sympathises somewhat with the third party – they may not have acted with any intent to wrong or harm Blogger or Writer, and may justifiably be confused as to how we could describe their action as morally problematic.
This call for attention to aggregated information needs a further step to track to a moral foundation – a story needs to be told *why* we ought to consider personal information in aggregate. I believe that a sustained philosophic examination of identity and information, with particular attention to their interaction, can tell this story. Exploring the relation between identity and personal information, particularly in Chapters Six and Seven, I offer an account as to why Blogger and Writer’s autonomy has been transgressed in a way that is more than a simple reference to autonomy. Further, this information might be essential to prevent tragedies like terrorist attacks or global pandemics – points covered in §6.2, §7.7 and §8.2. By explaining the impacts of these technologies we might be able to achieve many of the good points whilst respecting individual autonomy.

**1.3.3 Beyond Simple Consequentialism**

Now, if simple autonomy cannot offer an explanation, maybe we can use consequences instead. Indeed, as Jeroen van den Hoven has pointed out, many people and cultures do not value autonomy as highly as liberal cultures typically assume (van den Hoven, 2007b, pp. 319-320). Let us instead work from the premise that personal information can be harmful[^34] – public knowledge of Blogger or Writer’s cognitive status can cause them substantial reputational, economic and emotional harms. So, at a quick glance, consequences seem to offer a way of explaining why we ought to be concerned about personal information. However, like autonomy, breaking personal information into discrete units provides a powerful challenge to this claim of harms arising from the use of personal information. Simply knowing someone’s blogs, tweets or newspaper articles does not seem to be harmful. In fact, this information is so innocuous that Blogger and Writer willingly placed this information into the public sphere. Currently, many social network websites display a great deal of personal information for anyone with an internet connection to access. So, not only does it seem like personal information is something that people don’t worry about, perhaps it is something that they ought not worry about.

Personal information needs to be considered not as individual data points, but aggregated and integrated. It then becomes something that has potential to produce information that is harmful to people.

[^34]: A taxonomy of harms arising from personal information is given in §7.5.
The problems of digital dossiers do not consist merely of a series of isolated and discrete invasions or harms, but are systemic in nature, caused by a particular social or legal structure...In isolation, a particular piece of information may not be very invasive of one’s privacy. But when pieces of information are combined, they may form a detailed account of an individual. The whole may be greater than the sum of the parts (Solove, 2004, p. 95).

The problem is that if we can’t offer a way of seeing why the data should be viewed in aggregated form, that we should be viewing the whole rather than the sum of the parts, then the piece-by-piece consequences seem to argue against the moral importance of personal information.

The basic point here is that a simple claim that consequences are important will not be persuasive: the particular consequences need to be spelled out and the way that the personal information ought to be conceived will need to argued for. In this thesis I put forward an argument that the relation between identity and information not only provides a way of conceiving personal information, but also justifies why we ought to be concerned about personal information at an aggregated level. This exposition of the relation between identity and personal information lifts the discussion beyond simple consequentialist handwaving, to present a detailed examination of what harms have occurred, and how to deal with them.

Just to be clear, I do not want to say that autonomy or consequences are vacuous terms, unable to offer any substantive advice on what we should do and why. Rather, the claim being made here is that simple appeals to autonomy and/or consequences don’t offer much in the way of detailed ethical justification. To properly attend to autonomy and/or consequentialist related concerns we need to develop a fine grained analysis of how these terms are relevant to the current discussion.

1.4 On My Methodology And Terminology

So far however, I have not said anything substantial about autonomy or consequences. How do these terms fit into my story, what do I mean by them and why are they relevant? To explicate my approach, in this section I give a brief outline of the ways in which I am using particular terms and how I denote uses of specific terms perhaps in contravention of standard grammatical conventions.

1.4.1 On Ethical Explanations

The terms ‘morality’ and ‘ethics’ are often used interchangeably. Wherever possible, I keep to a convention I mentioned earlier: that I will use ‘morality’ to refer to certain
judgments of right and wrong and/or good and bad actions, agents, intentions etc., whereas I use ‘ethics’ to denote a systemised set of explanations for why an action, agent, intention etc. is judged to be right or wrong, good or bad. For instance I might say that burning a cat is morally wrong, and then offer an ethical appraisal of that judgement by reference to a set of reasons and explanations.

On this convention, ethics refers to an attempt to spell out just how a set of reasons apply to a given state of affairs. Following Michael Smith, not just any reasons will do – rather than explaining an action, ethics is concerned with reasons that justify why we ought to act or not act in a given way (Smith, 1987, p. 38; Smith, 1994, pp. 94-98). Offering a reason for acting is not enough: if it is to be judged as ethical or not, such judgment needs to be justified.

In this thesis, ‘ethics’ refers to a systemised public justification for an action, founded on, or derived from, some moral idea: an ethical justification should, at very least, relate to something that has moral weight. Another way of putting this is that for a judgment to track properly and publicly to something moral, at very least, it should go to something that is commonly held to be wrong or right, and/or bad or good.

To give an example consider this: “If you round a corner and see a group of young hoodlums pour gasoline on a cat and ignite it, you do not need to conclude that what they are doing is wrong; you do not need to figure anything out; you can see that it is wrong” (Emphasis Original, Harmann, 1977, p. 4). Most of us in this situation would agree that the burning of the cat is morally wrong. Yet in seeking to justify why this is wrong, we may struggle in finding or articulating our reasons. In response, I hold that there are three sorts of ‘moral reasons’ which are typically held to be foundational: that people are due respect in virtue of them being people, that we ought to minimise/avoid people’s suffering and finally, that we ought to treat like-cases alike.

These three accounts are intended to track in some way to standard ethical systems. Firstly, in a nod to deontology, there are some set of rules about how someone

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35 For ease of reading, I will refer to actions, acts and sometimes intentions here. However, as I have written elsewhere (Henschke, 2012), I generally intend ‘action’ to refer to a full set of considerations liable to ethical judgment; an agent’s intention, the act itself and the purposive aim of the act.

36 I recognise here that Gilbert Harmann is making a different point about ethics and observation, and how to test and confirm moral principles.

37 I use ‘people’ here in a deliberately open sense: depending on what counts as a person, the set of things included in what ought to be respected can be as broad or narrow as one needs. In an account like Tom Reagan’s (Regan, 2004) animals like cats may count, on other accounts only fully developed adult humans would count. However, in line with the approach taken here, one would have to offer some justificatory reason why something should or should not count as a person and/or for moral consideration.
ought to be treated in virtue of the fact that they are person. Clearly, what those rules are, exactly how they are expressed and if/when they can be justifiably overridden are the hard questions for a given ethical system. Secondly, in reference to consequentialism, that unnecessary suffering should be avoided or minimised. Utilitarianism, the most obvious such decision theory has a range of different forms, and of course there are non-utilitarian consequentialist systems that count things different to/in addition to suffering and/or pleasure. Finally, equality has the ‘golden rule’: that we should treat like-cases alike. For instance, we could ask the hoodlums if they would like to be set on fire, and then demand some explanation to show why it is justified for them to set someone else on fire.

Do we hold such foundational beliefs? My reply is to appeal to a common morality. By common morality, I mean that in most situations, most people, most of the time would agree that people deserve respect, that unnecessary suffering should be avoided or minimised and that we ought to treat like-cases alike. Most ethical systems express moral value for things like people with reference to three sorts of descriptions that track roughly to the three foundations mentioned: autonomy/liberty, utility/efficiency and equality/justice. This thesis spells out the content and limits of these values as they relate to personal information.

I am not attempting to offer a complete normative theory here: to do such a thing would be to write a fundamentally different thesis: rather than offer an interaction

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38 Griffin’s *On Human Rights* is one such example whereby he locates human personhood as the foundation for human rights (Griffin, 2008).

39 I note here that my use of ‘common morality’ is different to – though consonant with – that of someone like Bernard Gert (Gert, 2004; Gert, Culver et al., 2006). It is different in that his account specifies a particular set of rules. However, the rules he derives come from a similar approach as to the one I advocate here. As he says “the moral system that thoughtful people use, usually implicitly, when they make moral decisions and judgments. It is the only guide to behavior affecting others that all rational persons understand and upon which they can all agree” (Gert, 2004, p. v).

40 At very least, most people would probably hold that they, their loved ones or those they consider important deserve respect.

41 I here mean to refer to accounts like Griffin’s in which autonomy and liberty are seen as importantly different (Griffin, 2008, pp. 142-175). Griffin’s account seems to follow, in part at least, Joel Feinberg’s two concepts of autonomy, *de jure* autonomy, ‘the sovereign right of self-government’, and *de facto* autonomy, ‘the actual condition of self-government’ (Feinberg, 1985, pp. 62-68). Griffin’s sense of autonomy seems to track closely to Feinberg’s *de jure* autonomy, while Griffin’s sense of liberty seems to track to Feinberg’s *de facto* autonomy. This autonomy/liberty distinction sits below some of the discussions in Chapter Two and Seven.

42 I here mean to show that ‘maximising the good’ can refer to things like utility, commonly expressed in some form of welfare or other good maximisation, (Kagan, 1998a, pp. 25-69), but is also commonly considered in reference to efficiency, such as economic efficiency. This economic efficiency point sits below some of the discussions in Chapter Three.

43 I here mean to bring attention to practical and moral differences between simply treating like-cases equally, and a need to be difference-sensitive (Appiah, 1994; Gutman, 1994; Habermas, 1994; Jones, 2006; Kymlicka, 1995; Modood, 1998; Okin, Cohen et al., 1999; Wolf, 1994). This point is also implicit in some of my discussions in Chapter Seven.
principle, the best I can do here is to articulate how I see these different normative factors interacting, something I do in Chapter Seven. Secondly, while there is certainly significant disagreement in normative ethics about what the right thing to do is, at a practical level, these disagreements may not be so important. That is, despite different foundational moral values, sophisticated ethical systems are likely to converge on many their practical conclusions. This is because, in part, they acknowledge the importance of other moral values.

For instance, a sophisticated deontological theory will be concerned with consequences. “Deontological theories are defined as non-teleological ones, not as views that characterize the rightness of institutions and acts independently from their consequences. All ethical doctrines worth our attention take consequences into account in judging rightness. One which did not would simply be irrational, crazy” (Rawls, 1971, p. 30). For example, some theories hold that in some situations if a threshold is breached, large goods/harms can justifiably take precedence over individual rights.

A final note about this pluralist approach is on the nature of disagreement. In most situations, most people will agree on their moral appraisal of a situation: we typically hold that setting a cat on fire for fun is wrong. However, there is considerable, perhaps intractable, disagreement on why such an action is wrong. That is, while there may be ethical disagreement, we can often find an overlapping consensus in our conclusions. This convergence on judgments, despite highly divergent moral theories, is nicely captured by a comment from two members of a U.S. National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, Albert Johnson and Stephen Toulmin. They say that the commission usually agreed over practical conclusions, and only faced “serious differences of opinion...when confronting the reasons why members concluded the way they did” (Emphasis Mine, Jonsen and Toulmin, 1988, pp. 16-19). Taking a pluralist approach aims to find a set of mutually useful justificatory reasons as to why we should care about personal

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44 This point is argued, for instance, by James Sterba: “traditional theories of ethics, be they Aristotelian, Kantian or Millian, or whatever, have come to be revised and reformed in such a way that, at least in their most morally defensible formulations, they no longer differ in the practical requirements they endorse” (Sterba, 2005, p. 1).

45 This might be considered a form of ethical exceptionalism, which certainly has problems in application: (Griffin, 2008, pp. 76-79). I talk more about when and why some exceptions to moral rules are sometimes justified in Chapter Seven. For more on exceptionalism, see (Allhoff, 2012; Fiala, 2006; Marks, 2006).

46 Rosalind Hursthouse gives a nice overview of the difference between supposed and legitimate dilemmas (Hursthouse, 1999, pp. 43-87).

47 This reference to an overlapping consensus is a reference to Rawls, whereby a central element of the role of public reason is to find areas that we can agree upon (Rawls, 1999a; Rawls, 1999b, pp. 172-174; Rawls, 2001, pp. 26-37).
information: some of the reasons may be more appealing than others, but it should be clear by the end of the thesis that, whatever one’s moral orientation, we all ought to care about personal information.

1.4.2 On Terminology
In this thesis, rather than using the singular, non-gendered pronouns ‘his/her’, ‘their’ is used instead. While this was not traditionally common grammatical practice, as ‘their’ was taken as a plural, ‘their’ is now recognised by the Oxford English Dictionary as a grammatically correct singular non-gendered pronoun (Oxford Dictionaries Online).

Secondly, the thesis introduces a number of particular terms and taxonomies. Often, the use of these terms is spelled out quite particularly as I have a specific intention in mind, denoted by the term’s capitalisation. For instance, Numeric Identity, Character Identity, Group Identity, Essentialised Identity and Virtual Identity and in Chapter Five, Thin Information and Thick Information and so on. These terms are used to pick out certain particular points, and their particular use is denoted through capitalisation. A list of these words, with their intended meanings is given in Appendix 1.

1.5 Structure
This chapter has traced a shift from a moral vacuum to an ethical vacuum, things like autonomy, consequences and equality matter. In order to develop ethical frameworks that explain the relevant foundational moral claims we need to shift from simple moral references to substantive theoretical analyses in ethics. We need a theoretically grounded way of dealing with the problems that arise from technology and personal information. This thesis is an attempt at providing such a theoretical framework.

At its most general, the problem that this thesis is trying to resolve is why a seemingly non-morally serious thing should be treated with moral seriousness. Specifically, that apparently morally innocuous personal information warrants serious moral consideration. I have already shown, in part at least, that much personal information is currently not treated as morally serious. Personal information is, in fact, morally serious. Finally, given its moral seriousness, a set of principles are presented on how personal information ought to be treated. The moral seriousness of personal information can be captured by reference to identity. This claim has two core premises:
firstly, that identity and personal information are related. Secondly, as a result of this relation, certain personal information is morally serious, and ought to be treated as such.

The discussion of this chapter is framed by reference to new and converging technologies that produce personal information which, at first glance seems, morally innocuous: posting a comment to a public website seems morally innocuous. We need a fine grained ethical analysis that can give a set of principled reasons as to why we ought to care about such innocuous information. Yet perhaps this call for a fine grained ethical analysis is premature? We are not in a moral vacuum. So perhaps there are conventions that currently exist that can regulate technology and information? This is true. Privacy and ownership present two conventions commonly codified into law, which deal in part with personal information. Is it possible that these two conventions can deal with the issues raised, in way that does not necessitate a de novo ethical theory?

While privacy and ownership do offer a starting position, the next two chapters show that they do not do this sufficiently. Because common conceptions of privacy are typically viewed in isolation from each other, such approaches are of limited use in dealing with new technologies. Exploring a set of case examples, reasons are given why a non-reductionist account of privacy is better able to respond to innocuous personal information. Chapter Three’s contention is that ownership’s usefulness is constrained when it comes to innocuous personal information because the common moral foundations for ownership claims, instrumental value and intrinsic rights, cannot properly capture the value of innocuous personal information.

To explain why personal information is a morally relevant concern, in Chapter Four develops an account of identity that focuses on cognitive processes, presenting a taxonomy of identity types and demonstrates how these identity types ultimately impact on a person’s self development and quality of life. This chapter sets a foundation for a principled analysis of new technologies by demonstrating connections between identity and the common moral foundations of basic respect and the obligation not to needlessly harm others. Chapter Five goes on to explore philosophic approaches to information as ‘data that is well ordered, meaningful and judged to be true’. This chapter shows how existing states of mind effect how a person constructs information. The basic argument of this chapter is to say that information is not inert: it is reactive a person’s existing beliefs and emotions.
Chapter Six brings the discussions of identity and information together. Importantly, the claim in this chapter is that identity and information stand in a relation of mutual causation to each other, a relation I call the identity/information dyad.

Bringing the discussion back to ethics, Chapter Seven suggests that the identity/information dyad presents a principled way of demonstrating why we should be morally concerned about innocuous personal information. By applying the analytic tool of the identity/information dyad, we can give a set of principled reasons why personal information is not morally innocuous. Instead, by recognising the relation between identity and information, we can come to see just how personal information is relevant to discussions of basic recognition and harms.

The final chapter brings the discussion full circle by making clear that the identity/information dyad offers some advice on how convergent technologies should be designed to reduce the moral problems discussed. Much of the thesis is spent focussing on reasons to limit the production and use of personal information, but there is certainly a great deal of good that can be gained from such information. The final chapter looks at technological design as a way of accessing those benefits whilst protecting and limiting the problems raised in previous chapters.

An important caveat is that I offer one way of doing this. While this analysis adds to debates on new technologies, it is not the only way of dealing with the problem. This is important for two reasons. Firstly, others will likely see other issues as more important, and in different contexts, these other issues take priority over the offered here: this project does not present a grand theory of everything. Secondly, this account can and should integrate with existing arguments and ethical frameworks. By giving a sustained ethical analysis, the aim is to convince people that innocuous information is relevant to serious moral discussion. Moreover, by linking information to common moral foundations, this approach should complement and strengthen existing arguments about human rights, harms and desserts, whilst ensuring that the benefits of such information are achieved. Ideally, the new information world we live in will have mostly experiences where lost swipe cards and their like are returned to absent minded people, and few experiences of malicious or negligent use of personal information.
Chapter Two: On Privacy

2.0 Privacy
This chapter begins by looking at a set of new technologies that illustrate the concern with current privacy conventions: most common theoretical approaches to privacy are of limited use because they view privacy independent conceptions, as conceptions which are singular or distinct from each other. Such conceptions are unable to recognise the moral weight of innocuous personal information. §2.2 presents commonplace descriptive conceptualisations of privacy and §2.3 shows ways it has commonly been justified. §2.4 argues that there are practical limits arising from understanding privacy in reference to independent conceptions and then develops a position that, despite the differences between them, the different conceptions need to be viewed in relation to each other. Importantly for this thesis, this relational approach draws out the need to recognise and elucidate the relations between common elements of all privacy discussions, particularly in relation to identity and information. The final section, §2.5 then applies the pluralistic approach to the initial case example.

This chapter follows from Chapter One by looking at how new technologies are impacting existing conventions – in this case, privacy. The next chapter follows a similar pattern by looking at how new technologies challenge existing conceptions of ownership, again showing that there is an important relation between identity and information. The later chapters then attend to this relation and its moral importance.

2.1 Workplace Surveillance And Privacy In Public: The Case Of Katie And Karl
Consider this scenario: Kate is at work one day, having a particularly bad day. Nothing seems to be going right. In desperation, she starts swearing at her computer, hitting the keys and generally expressing her frustration. Like any good manager, her supervisor recognises that Kate is struggling, and approaches her: “Hey Kate. I couldn’t help but notice your behaviour, and can see that you’re having a bad day. How about I shift you off this project onto something a little more enjoyable.” Kate nods despairingly and thanks the supervisor for their concern. Now imagine this: Karl is at work one day, having a particularly bad day. Like Kate, he abuses his computer, pounding away at the keys, generally expressing his bad state of mind. Instead of a supervisor coming over to talk to him, however, a friendly virtual office assistant pops up on Karl’s computer screen: “Hey Karl. I couldn’t help but notice your behaviour, and can see that you’re
having a bad day. How about I shift you off this project onto something a little more enjoyable.” Karl nods despairingly and thanks the computer for its concern. In Karl’s situation, rather than a supervisor recognising and attending to his distress, these tasks are done automatically by computer software. What I have described is an automated response triggered by workplace surveillance software.

Workplace surveillance software refers to a cluster of related technologies designed specifically for the purposes of “watching, listening to, or recording of an individual’s activities” (Solove, 2008, p. 104). In Karl’s situation, the surveillance technology is ‘keylogging software,’ which utilises data analysis to assess people via their typing patterns. If Joseph Kizza and Jackline Ssanyu are correct (Kizza and Ssanyu, 2005, pp. 1-18), such technologies will likely be integrated into many workplaces in the near future.

In his book *The Numerati*, Steven Baker sees workplace surveillance and keylogging software as problematic:

> At work, perhaps more than anywhere else, we are in danger of becoming data serfs – slaves to the information we produce. Every keystroke at the office can now be recorded and mathematically analyzed. We don’t own them...From [this surveillance, employers] can draw powerful conclusions about our productivity, our happiness at work, and our relations with colleagues...Microsoft even filed in 2006 to patent a technology to monitor the heart rate, blood pressure, galvanic skin response, and facial expressions of office workers. The idea, according to the application, is that managers would receive alerts if workers were experiencing heightened frustration or stress. Such systems are in early stages of research. But even with today’s technology, if your company is not scouring the patterns of your behavior at the keyboard, it's only because it doesn’t choose to – or hasn’t got around to it yet (Baker, 2007, pp. 18-19).

Data serfs, under the watchful eye of a capitalist Big Brother. Is Baker overstating the need for moral concern about these new technologies or is there something more substantial occurring, some serious privacy violations which we ought to be concerned about?

Baker’s concerns seem dependent, in part at least, on whether there is some relevant moral difference between cases like Kate and Karl. §1.4 mentioned that we should treat like-cases alike, and at first blush, both examples seem morally innocuous, displaying good management even: A supervisor is actually recognising the emotional state of their workers, and is taking enough interest to do something about it. Yet in the second case, perhaps there is something amiss. While we would generally allow, if not expect, a supervisor to take an interest in their worker’s emotional states, having a computer monitor and respond might represent a privacy violation. But, if claims like Baker’s are to have any substance, we require a more detailed moral analysis of how
Kate and Karl’s cases differ. We must understand what factors are involved, which factors are morally relevant and why they ought to concern us. What is morally different between Kate and Karl, and why we should care?

Looking closely at the keylogging software, as a workplace surveillance technology, we see that it is used in order to produce two kinds of valuable information about workers. It is a type of biometric technology which assesses an individual’s behaviours. By analysis of an individual’s keystroke patterns, it is claimed to do one or both of the following tasks:

1. Identify the particular worker, and/or;
2. Identify the emotional state of the worker.

**Claim (1): Identify the particular worker.** This claim holds that each person produces a unique signature with their keystroke patterns. In this instance, keylogging software is claimed to be able to identify individuals and produce what we may call a ‘personnel identity.’ For example, Ahmed Awad E Ahmed and Issa Traore, present a keystroke recognition scheme based on free text detection that goes beyond the traditional approach of using keystroke dynamics for authentication or employee performance evaluation, and consider using such information for dynamic user profiling. The generated profiles can be used to identify reliably perpetrators in the event of security breach. By observing, recording and checking an individual worker’s keystroke patterns against an existing database of employee records to confirm a worker’s identity (Ahmed and Traore, 2008).

**Claim (2): Identify the emotional state of the worker.** Claim (2) runs on the premise that surveillance technologies will be used in workplaces to identify the worker’s emotional state via their behaviour. Generally, these surveillance technologies can identify emotional states either by physical or behavioural means. Physical measurement involves monitoring the worker’s physical state: changes in blood pressure, heart rate etc. can indicate a different emotional state of the worker. A patent submitted by the Microsoft Corporation, mentioned by Baker (Baker, 2007, p. 19), details one such set of biological measurements:

48 Biometric technologies involve “the collection with a sensing device of digital representations of physiological features unique to an individual...and may also involve typical behavioral patterns” (van der Ploeg, 1999, p. 295).

49 This is a slight play on words here, as the specific identity concept that Claim (1) tracks to is concerned with numeric/personal identity. This is a different identity concept from character identity, which figures in Claim (2). The term ‘personnel identity’ seems to fit both the workplace context and the philosophic concepts of numeric/personal identity. I describe and discuss numeric/personal identity in §4.4.1.

50 This example provided by Ahmed and Traore is a case of ‘free text identification’. That is, the person typing can be identified without the need to for them to type a particular word or phrase. Free text identification relies on the “ability to enroll a user using a non-predefined set of data. This allows both monitoring the user on the fly and non-intrusively by totally hiding the detection process from the user” (Vizer, Zhou et al., 2009). The point here is that, given an existing database of known user keylogging patterns, new possibly unauthorised users can be identified, by the text they type.
[A] help request can be triggered in at least two different ways: implicitly or explicitly. When a parameter is violated or a threshold is satisfied or exceeded, the system can automatically initiate the help request in order to identify the target activity and target user and determine the type or source of assistance most suitable for Joe and his activity. Parameters or thresholds can relate to the particular activity, to the user's physical state, or to the user's environment. For example, sensors can monitor the user's heart rate, blood pressure, body temperature, galvanic skin response, EMG, brain signals, respiration rate, movement, facial movements, facial expressions, etc. Alternatively, Joe can expressly request assistance (Macbeth, Fernandez et al., 2006).

Direct measurements are likely to be intrusive, cumbersome and most probably unpopular amongst employees.

Non-invasive behavioural measurements seem more practical for application in the workplace. Surveillance technologies can monitor a person’s eyes, in order to make assumptions about their emotional state. Another method is keylogging software. Lisa Vizer, Lina Zhou and Andrew Sears describe their research which uses keystroke patterns to assess stress in elderly patients:

[T]he use of a combination of timing, keystroke, and linguistic features to detect stress and possibly assess cognitive and physical function...This research explores the detection of cognitive and physical stress with the ultimate goal of continuous monitoring of keyboard interactions to detect acute or gradual changes in cognitive and physical function. The primary contribution of this research is to highlight the potential of leveraging everyday computer interactions to detect the presence of cognitive and physical stress (Vizer, Zhou et al., 2009).

In terms of workplace surveillance, I will focus my attention on non-invasive behavioural technology like keylogging software. There are two reasons for this. Firstly, assuming that it works as described, keylogging software will be likely to be used as part of automated workplace surveillance. It is the least intrusive, can be retrofitted and activated by installing the software on a computer. Secondly, at first glance, it seems to pose the least moral concern. Ahmed and Traore state that “[b]y collecting only user keystroke dynamics instead of actual keystrokes data, our technique limit[s] the amount of personal information gathered. This protects to some extent the privacy

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51 “According to one synergistic embodiment of the invention, the emotional response information can be detected based, at least in part, on the subject’s eye properties (e.g., eye movement, blink rate, pupil dilation, and or other eye properties). Advantageously, this enables (if desired) the same eye tracking device that is used to collect visual attention data to collect emotional response data” (Lemos, 2007).

52 For the purpose of this chapter, I am going to presume that this keylogging software actually meets both claims – that it can reliably and accurately produce a personnel identity for a given employee, and that it does actually reliably and accurately correlate with the worker’s emotional state. If it turns out that this software does not meet it’s the stated expectations, I believe that the arguments put forward in this chapter about keylogging software remain relevant to the general discussions of privacy.

53 A claim borne out by the American Management Association’s claims that in 2008, 45% of computer monitoring by employers was done by keyboard (The American Management Association, 2010).
of the monitored individuals, compared with existing surveillance technologies” (Emphasis Mine, Ahmed and Traore, 2008).

Their point has some merit. Compared to monitoring an employee’s heart rate, keystroke dynamics are not physically invasive and so seem to offer far less personal information. If we can identify a moral basis for concern with a non-invasive technology that only attends to behaviours not typically seen as private, where the privacy concerns seem fairly limited, like keylogging software, more invasive cases would raise similar and likely stronger concerns.

Having described the keylogging software technology, we are now in a better position to being assessing the two cases. Does Karl’s case hold any aspects relevant to privacy not found in Kate’s? The first response is to say that there is some relevant difference – the technology in Karl’s situation has violated his privacy, and done so in a way that Kate’s supervisor hasn’t. However, given the seemingly similarity between Kate and Karl’s situations, something needs to be said to justify the assertion of a privacy invasion: if Karl’s privacy has been violated, it has not occurred in an immediately obvious manner. Like the concerns raised in §1.3, a simple appeal to privacy will not suffice – Karl is at work, on work property, producing work and surrounded by workmates. A standard response to a claim of privacy invasion is to call attention to the facts that Karl is in public, doing things mundane activities, such that an expectation of privacy is unreasonable. Privacy ‘does not assert a right never to be seen, even in a workplace.’ In short, privacy claims made in relation to public spaces are just plain wrong.

This response points to two things. Firstly, this response relies on privacy to be understood with respect to a distinction between private and public, to be discussed in §2.2.2. Secondly, that technology can change our expectations of what counts as private. Where employees of many different industries once had a measure of workplace privacy – out of the boss’ line of sight typically meant a greater scope for employee privacy – technologies now observe and report back on all forms of work: keylogging software track an employee at the desk, smart cards monitor and limit an employee’s movements while at work (Want, 2006) and Global Positioning Systems (GPS) track company cars (Wang, Ho et al., 2008) outside of the office. This is an increasing trend: Kizza and Ssanyu cite a 2001 report from the American Management

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54 This is a deliberate paraphrasing of Jeffrey Reiman’s claim that privacy “does not assert a right never to be seen even on a crowded street” (Reiman, 1976, p. 44). I mention more about Reiman’s approach to privacy later in this chapter.
Association, who claim that in the period from 1997 – 2001, employee monitoring had tripled from pre-1997 levels (Kizza and Ssanyu, 2005, p. 2).

This expansion of technology into areas and practices once assumed to be private goes much farther than the workplace. In many countries, Closed-Circuit Television (CCTV) Cameras dot the public landscape (Norris and McCahill, 2006), clothes have been released that contain Radio Frequency Identification Devices (RFIDs) (Albrecht and McIntyre, 2005, pp. 41-43). Further to this, as mentioned in §1.2 – §1.3, many people around the world are willing participants in this – whether at work, home or driving, many people wilfully and happily post personal information to publicly accessible internet and social networking sites. Anywhere there is internet or mobile phone access is now a potential public space.

Given these trends, the need to compare Kate and Karl’s cases seems even more important to resolve: if there is nothing of moral relevance between them, then we have little reason to be concerned about the rise of other informational technologies. However, if there is something morally relevant between Kate and Karl’s cases, then perhaps new technologies are also involved in morally substantive privacy invasions. The argument is twofold: that in order to explain why Karl’s case is morally serious we need to view the keylogging information in aggregate. The issue of aggregation is discussed in Chapters Four – Eight. The point here is technologies producing innocuous information operate in ethical vacuums brought about by considering privacy conceptions independently of each other.

Following from Chapter One, the focus is on how technology challenges conceptions of privacy. This technological challenge is central to current discussions of privacy, and requires not only ethical analysis, but one that is concerned with technology and history. For instance, consider that we conceive of privacy as something secret, necessarily kept out of the public sphere. Given that so many people willingly and consensually put details of their lives online, it seems to indicate either that the

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55 While London is often referred to in relation to CCTV cameras, it is important to note that the numbers of CCTV cameras and the number of times one is captured on them often cited have been challenged. Clive Norris and Michael McCahill estimated that there were about one CCTV camera for every 14 Londoners, (Norris and McCahill, 2006, p. 101) amounting to a possibility of being captured by a CCTV Camera 300 times a day, statistics which have received much coverage in popular and academic literature. More recently, however, these statistics, particularly the ‘300 times a day’ have been challenged by David Aaronovitch (Aaronovitch, 2009).

56 The claim that people consensually put their information online is contestable, (Solove, 2004, pp. 82-85). However, the point is that the information is treated as if people had given informed consent when putting their information online.
given information is not private, or that privacy itself is no longer important. Why is this? Perhaps people simply no longer care about privacy: Facebook’s Mark Zuckerberg has said that privacy is no longer a social norm (Johnson, 2010). On a more extreme analysis, it may no longer be possible to expect privacy: In 2010, Google CEO Eric Schmidt suggested that we shouldn’t even entertain the thought of keeping our past private, and if we don’t like what Google tells the world about us, our best response is to change our name and move our house (Hearn, 2010). Facebook shows us that we don’t really care about privacy, and Google tells us we can’t do anything even if we did care. Has technology killed privacy?

However, before we consider privacy a dead concept, consider that the seminal paper on privacy, The Right To Privacy, written by Samuel Warren and Louis Brandeis in 1890 was written in response to new technologies: In the late 19th century cameras had become portable, could take photographs practically in an instant and could be used by almost anyone who could afford one. Foreshadowing current debates about CCTV and the internet more than a century later, Warren and Brandeis were concerned about the ways that the new technologies were invading personal space. They wrote their article in response to the wrongs allowed by the development of photographic technologies that “rendered it possible to take pictures surreptitiously” (Warren and Brandeis, 1890, p. 211). This “new technology made it important to explicitly and separately recognize this protection under the name of privacy” (DeCew, 2006). The relevant points here are that technology and privacy have, at least for the past one hundred years, had a close relationship, and that technological changes do not necessarily mean the death of privacy. Indeed, in the Western tradition, a right to privacy was actually conceived as a response to technological change. This chapter’s purpose is to rethink privacy such that we do not discard it wholesale in the face of modern technologies.

In order to assess what technology is doing to privacy, we must examine what people mean when they refer to privacy. I believe that there is something troubling

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57 This could indicate a case of revealed preferences: Despite saying that privacy is important, people reveal their true preferences when they show that they are happy to trade personal information for some benefit, a claim strongly rejected by Daniel Solove (Solove, 2004, pp. 80-81).

58 ‘Norm’ here is deliberately ambiguous, in that Mark Zuckerberg’s use is in reference to a popular convention, i.e. it is normal that people act like don’t care about privacy anymore, while it implies that this is a social norm, i.e. people don’t care about privacy anymore.

59 Eric Schmidt’s stance seems to be one of ‘technological fatalism’ – this technology and the changes it brings is happening regardless of what you want, and we can do nothing to resist it. Such fatalism about technology, I suggest, is problematic. §8.2 explores some ways we can use technological design to limit the problems caused by these technologies.
about Karl’s case, which is indicative of a more general concern with informational technologies. The following sections of this chapter detail an integrated account of privacy to justify why I think there is something morally troubling, and the final section of this chapter, §2.5, Kate And Karl Revisited, I show how an integrated account of privacy explains what’s wrong with Karl’s case.

2.2 Privacy Described

This section summarises four common ways that people have conceptualised privacy in privacy literature. These concepts cluster together as they track to ways in which people describe privacy, they seek to answer the question of ‘what counts as private?’ In contrast, §2.3 explores privacy by reference to its justifications. That is, the concepts in §2.3 seek to answer the question of ‘why should X be considered private?’ Presenting a description/justification distinction encounters the standard philosophic problems that arise when creating distinctions,60 but there are practical reasons to divide privacy up. This description/justification distinction is useful in order to get a conceptual topography of privacy settled.

2.2.1 Privacy As A Right

Privacy has been an important concept in human relations probably as long as there have been human relations. In some form or another, privacy traverses the temporal and cultural spaces of human society.61 Within ancient Greek thought,62 there was reference to a difference between political and domestic life, the polis and oikos, and also between what is one’s own and what is communal, the idion and koinon (Arendt, 1958, p. 24). In recent Western tradition, privacy is often said to have crystallised as a singular concept (DeCew, 2006) following the 1890 publication of Warren and Brandeis’ seminal article The Right To Privacy (Warren and Brandeis, 1890). In this article, Warren and Brandeis built a singular conceptual scheme of privacy from existing U.S. law. “What Warren and Brandeis achieved was nothing short of magnificent. By pulling together various

60 I note here that using such a description/normative distinction in privacy concepts has been used by Helen Nissenbaum (Nissenbaum, 2009, pp. 68-69). Further, as she notes, “there are virtually no uses of privacy with a purely descriptive meaning, one should assume that the normative intent is integrated into its core meaning” (Nissenbaum, 2009, p. 69).
61 Unsurprisingly, there are many different cultural and historical approaches to privacy, from Chinese (McDougall and Hansson, 2002), Islamic (El Guindi, 1999), and Greek/Christian trends in Europe (Moore, 1984).
62 The use of terms ‘public’ and ‘private’ in Athenian culture are discussed in detail by Barrington Moore (Moore, 1984).
isolated strands of the common law, the authors demonstrated that creating remedies for privacy invasions wouldn’t radically change the law but would merely be an expansion of what was already germinating” (Solove, 2004, p. 58).

This description by Daniel Solove is illuminating for two reasons. Firstly, and unsurprisingly, it indicates that there was already a moral position on privacy within U.S. society, even if it had not been coherently organised in a specific legal sense. Secondly, that Warren and Brandeis’ account was powerful, as it presented ‘an organising principle’ for privacy, in this case a singular and individualised right to privacy. An organising principle is “an idea whose gist is expressible in terms of this images [which] serves as an essential point of reference by which the operation of these systems of very detailed and complicated rules is to be understood”(Waldron, 1988, p. 42).

Organising a series of different legal and social interests under the banner ‘privacy’ served an important practical function. Sidestepping the need to enter a detailed description of what a right is, or why privacy itself is a right (justifications are offered in §2.3), describing privacy as a right captures its importance and gives a recognisable point of reference to grasp onto. This is not to say that merely asserting something as a right makes it so, rather that the description of privacy as a right had a practical force, then as now.

On top of its historical significance, Warren and Brandeis’s article is important as it identified the individual as the locus of moral concern for privacy. It did this through reference to an individual’s right to privacy, in particular “the enforcement of the more general right of the individual to be let alone” (Warren and Brandeis, 1890, p. 205). Though Warren and Brandeis recognised, especially when considering public figures like holders of public office, that there are legitimate social concerns such that the “right to privacy does not prohibit any publication of matter which is of public or general interest” (Warren and Brandeis, 1890, p. 214), later in the article they make

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63 James Griffin captures what I see as the relevant feature of an ‘organising principle’ in his description of ethics: “Ethics should be concerned not just with identifying right and wrong, but also with realizing the right and preventing the wrong. Having the simple term ‘human right’ is important to the latter” (Griffin, 2008, p. 19). I have adapted the term ‘organising principle’ adopted from Jeremy Waldron (Waldron, 1988, p. 42), where he presents ‘property’ as an organizing principle. I discuss Waldron’s approach to property in Chapter Three.

64 Rights are covered in §3.2 and §7.4.

65 Unless you are a legislature or perhaps a court, with the authority to create or recognise legal rights.

66 This formulation is in line with a more general right to liberty as non-interference. The relevant aspect here is that the non-interference comes from the recognition of privacy. This leaves the justifications for why something would count as private unexplored. Common justifications are explored in §2.3.
clear that the individual was the focus of moral concern: “the protection of society must come mainly through a recognition of the rights of the individual” (Emphasis Mine, Warren and Brandeis, 1890, pp. 219-220). Following Warren and Brandeis, the individual took centre stage in privacy discussions, at least in places where an individualist approach was well received.

2.2.2 The Public/Private Divide And The Secrecy Paradigm

A second point which developed, in part at least from Warren and Brandeis, is the role of public/private divide in privacy. The public/private divide rests upon ‘the secrecy paradigm’: “Under the secrecy paradigm, privacy is tantamount to complete secrecy, and a privacy violation occurs when concealed data is revealed to others” (Solove, 2008, pp. 21-24, 111). The relation between the public/private divide and the secrecy paradigm is that that which is private is, by definition, not public. Likewise, if a secret becomes public knowledge, it is no longer private. Under the secrecy paradigm, “when others know the information, it is no longer completely secret” (Solove, 2008, p. 139).

The examples of Blogger and Writer discussed in §1.3 speak directly to this: If something is made public it is no longer secret. Further, if a person willingly publicises something it seems strange for them to claim that people ought to respect their privacy, on that matter.

There are a series of concerns with the concept of the public/private divide. As has been discussed extensively by many philosophers, particularly from feminist view

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67 As noted by van den Hoven, (van den Hoven, 2007b), this individualist focus limits the application of privacy in places with a more communitarian emphasis.
68 This is perhaps most evident in Warren and Brandeis’ account when they say “[t]he right to privacy ceases upon the publication of the facts by the individual, or with his consent” (Warren and Brandeis, 1890, p. 218).
69 For instance, where exactly does one draw such a division? Mirroring the polis/oikos division, as Patricia Meyer Spacks notes, this public/private divide is often confused with a public/domestic divide: “[P]rivacy can ally itself with the “public” side of the public/private dichotomy by its frequent opposition to the domestic...The debate about private versus public of course bears on privacy, but the “private life” does not necessarily entail privacy...Discussions of “private” versus “public” characteristically concern the operations of the state, the relation between members of the state in their communal and their individual functioning. The subject of privacy, in contrast, especially if considered historically, often demands focus on the ways people expose and guard themselves in relation to limited numbers of others” (Spacks, 2003, pp. 1, 4).
70 Catherine MacKinnon captures the sentiment well: “[T]his right of privacy is a right men ‘to be let alone’ to oppress women one at a time...It keeps some men out of the bedrooms of other men” (MacKinnon, 1987, pp. 101-102). I cannot do justice to this field of discussion, as it is extremely broad and detailed, covering various fields of philosophy from multiculturalism, post-modernism and feminist thought to name a few. Chapters Eight and Nine of the Second Edition of Will Kymlicka’s Contemporary Political Philosophy provide an initial overview (Kymlicka, 2002). Anita Allen’s Uneasy Access and Patricia Meyers Spacks’ Privacy then enter into detailed analysis of privacy as criticised by different views in feminist philosophy (Allen, 1988; Spacks, 2003).
points, this public/domestic divide can reduce women to mere servants within the domestic sphere. Helen Nissenbaum notes that “there are virtually no uses of privacy with a purely descriptive meaning, one should assume that the normative intent is integrated into its core meaning” (Nissenbaum, 2009, p. 69).

The public/private distinction affords a common conceptualisation of privacy as a space, or boundary. Privacy “is a set of boundaries we create between ourselves and others”, and “[p]rotecting privacy involves reducing the extent to which individuals, institutions, and the government can encroach on people’s lives” (Emphasis Mine, Solove, 2008, pp. 74, 93). Julie Inness states that “control-based definitions of privacy function by giving the individual control over a certain area of her own life, in other words, they give the individual a specified realm of autonomy”, and later “[w]e have every reason to embrace the idea that privacy provides people with control over some area or areas of their lives” (Emphases Mine, Inness, 1992, pp. 47, 53). What counts as the specified realm is typically going be reliant on the particular justification offered – a point returned to later in the chapter.

Think also of the language used when referring to the loss of privacy. Perhaps one of the most frequently used terms is a ‘privacy violation’. In her article, The Right To Privacy, Judith Jarvis Thomson uses violation, or some cognate, 116 times, in a 21 page paper, on average more than 5.5 times per page (Thomson, 1975). Other terms frequently used are a ‘privacy breach’, an ‘invasion of privacy’, or a ‘privacy transgression’. The frequent references to boundaries, zones, spheres, regions, territories of privacy, and the corresponding references to invasion, transgression, breach and

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71 Nissenbaum makes a stronger point that the public/private distinction has guided privacy discussions into conceptualising privacy as “dichotomy of spaces” (Nissenbaum, 2009, p. 94).
72 Joel Feinberg states that “[d]escriptions of the right [to privacy] vary from case to case, but one common element it seems to share with “personal sovereignty” is the notion that there is a domain in which the individual’s own choice must reign supreme” (Emphasis Mine, Feinberg, 1985, p. 87). Thomas Scanlon states “that these [privacy] rights have a common foundation in the special interests that we have in being able to be free from certain kinds of intrusions” (Scanlon, 1975, p. 29). Jeffrey Reiman: “[i]t is sufficient that I can control whether and by whom my body is experienced in some significant places and that I have the real possibility of repairing to those places” (Reiman, 1976, p. 44). James Rachels states “if we are able to control the relationships that we have with other people, we must have control over who has access to us” (Emphasis Mine, Rachels, 1975, p. 331). Finally, W. A. Parent states that a person “may not be concerned that a few close friends, relatives or professional associates know these [personal] facts, but they would be very much concerned if the information passed beyond this limited circle” (Parent, 1983, p. 270). The boundaries conception is found in the reference to Parent’s ‘limited circle’.
73 Solove’s reference to institutions and the government aligns privacy with liberty as non-interference. Again, the questions arise, what counts as private and why?
74 Please note that the in the original source, the author had different emphases: “control-based definitions of privacy function by giving the individual control over a certain area of her own life, in other words, they give the individual a specified realm of autonomy” (Inness, 1992, p. 47).
violations of privacy, suggest that boundaries are a common way of describing privacy, or its loss.

2.2.3 Privacy And Information

Describing privacy as a space or bounded zone may refer to physical space, or a non-physical space, like an informational space, prompting a description of privacy as information and its control. Given the centrality of information to my discussions, I cover its relation to privacy in §7.4.1. However, to show that it does figure in privacy discussions, we can start with Alan Westin who states that “[p]rivacy is the claim of individuals, groups, or institutions to determine for themselves when, how, and to what extent information about them is communicated to others” (Westin, 1967, p. 7). Others offer varying conceptions of privacy as control over personal information. On these accounts, privacy is seen as the recognition that an individual has some legitimate claim to control their personal information. That is, speaking of privacy recognises that a person can and should control their personal information.

A final point in favour of describing some types of privacy as information control, raised by van den Hoven, seems to receive little coverage in privacy discussions: the right to be let alone from other people’s information:

When a man who enters an almost empty restaurant picks the table next to me, there are several things I may object to. First, I may not all be concerned with my personal data, but rather with his personal data. I may in other words not be concerned with what this person is learning about me, but with what I am learning about him (Emphasis Original, van den Hoven, 2008, p. 306).

While van den Hoven’s focuses is on other privacy concerns, see §2.5, his example further shows the centrality of information in privacy: we may not only seek to keep our information private, but to also keep other’s information out of our personal space.

So, on this analysis, there is some overlap between the three descriptive approaches: privacy describes some space – physical or informational – in which an individual is typically recognised as having a claim to exclude others. Though I find some faults with his approach (see §2.5.2), the legal scholar Solove highlights

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75 Solove quotes: Arthur Miller “...“the basic attribute of an effective right to privacy is the individual’s ability to control the circulation of information relating to him”, Charles Fried “ “rather it [privacy] is the control we have over information about ourselves”, U.S. President Clinton’s Information Infrastructure Task Force: “an individual’s claim to control the terms under which personal information – information identifiable to the individual – is acquired, disclosed, and used” (Emphasis Solove, Solove, 2008, p. 24).

76 For instance, he sees informational accounts of privacy as problematic as they may be too narrow, as they are unable to include non-informational rights such as “fundamental decisions about one’s body, reproduction, or rearing of one’s children. Additionally, the theory is too vague because it fails to define the types of information over which individuals should have control” (Solove, 2008, p. 25). He further contends that “[t]he problem with focussing on the nature of the information or matter involved is that
something that is lacking in the conceptions discussed so far – simply describing privacy seems to miss something important. In order to answer ‘does X count as private’; we may need to ask ‘why does X count as private’. This point is mirrored by Luciano Floridi:77 “A theory of informational privacy needs a criterion of discrimination to be able to explain why some information processes do not count as violations of privacy (Emphasis Original, Floridi, 2006, p. 116). We now turn to these justificatory conceptions.

2.3 Privacy Justified

Rather than focussing on descriptive conceptions, another way to understand privacy is to look at the reasons why something should be considered ‘private’ in the sense of something that ought to be in the right holder’s control. The common element in the following cluster of privacy conceptions is that they all seek to understand privacy by reference to some morally distinctive relevant feature. That is, they conceptualise privacy by the ways it is justified.

2.3.1 Personhood

This discussion of personhood previews many aspects of my discussion of ownership and identity, Chapters Three and Four. The aim here is to show how personhood has figured in justifications of privacy. For instance, Jeffrey Reiman concludes Privacy, Intimacy And Personhood with:

[t]he right to privacy, then, protects the individual's interest in becoming, being, and remaining a person. It is thus a right which all human individuals possess— even those in solitary confinement. It does not assert a right never to be seen even on a crowded street. It is sufficient that I can control whether and by whom my body is experienced in some significant places and that I have the real possibility of repairing to those places. It is a right which protects my capacity to enter into intimate relations, not because it protects my reserve of generally withheld information, but because it enables me to make the commitment that underlies caring as my commitment uniquely conveyed by my thoughts and witnessed by my actions (Emphases Original, Reiman, 1976, p. 44).

This problem of innocuous information highlighted by Solove is a major focus for thesis.

77 Luciano Floridi develops an account that is wholly focussed on describing privacy in relation to information. His account is derived from the “thesis that the minimal condition of possibility of an entity’s least intrinsic value is to be identified with its ontological status as an information object” (Floridi, 2002, p. 287). Floridi’s account is an extreme approach whereby an informational analysis not only changes what privacy means, but “re-ontologises” the agent themselves (Floridi, 2005b, pp. 188-189) and changes the very conception of privacy and agents into informational notions. Given that his approach sits at the margins of privacy discussions, I instead focus on Floridi’s philosophy of information in detail in Chapter Four.
Privacy is seen as right, justified by reference to agency and choice over intimate decisions. Reiman argues these are necessary for personhood. On a strong reading, insofar as a society is to respect agent’s capacity to develop and maintain personhood, society must respect privacy. Other authors also recognise a link between personhood and privacy. What personhood means, is a vague term, for some this may be a problem.

Personhood is definitely a broad and vague concept, and some explication is needed. Two elements of self development are important in explaining a link between personhood and privacy. Consider two forms of autonomy: de facto autonomy is the actual condition of self-government, and de jure autonomy is the sovereign right of self-government (Feinberg, 1985, pp. 62-68). De facto autonomy refers to what one can actually do, while de jure autonomy refers to what one is morally permitted or allowed to do. Tony has de facto autonomy if he is actually able to move about freely, while he has de jure autonomy if he should be allowed to move about freely. Hence, if Tony is unjustly locked in jail, he may have no de facto autonomy, whilst maintaining de jure autonomy. “Thus there are circumstances both in which one can [de facto] do what one may not [de jure] do, and in which one may [de jure] do what one cannot [de facto] do” (Emphases Original, Feinberg, 1985, p. 63).

If we consider ‘self-government’ to include agency over one’s own personal development, we can reshape Feinberg’s two senses of autonomy to be de facto personhood – the actual condition of personhood and de jure personhood – the sovereign right of personhood. Privacy justified by reference to personhood then contends that we have a de jure right to personal development, and that privacy is a necessary de facto element in ensuring that de jure right is achieved. An excerpt from Anna Funder’s book, Stasiland on the former East Germany’s state surveillance illustrates this point of de facto privacy being necessary for de jure personhood:

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78 I note here that Griffin’s account of privacy is relevantly similar to the role that ‘central’ decisions play in his account of human rights generally, and privacy in particular (Griffin, 2008, pp. 152, 225 – 241).
79 Solove lists Warren and Brandeis’ reference to ‘inviolable personality’, Paul Freund, Edward Bloustein, Stanley Benn as well as a number of decisions in the U.S. Supreme Court which cite personhood in privacy cases Griswold v. Connecticut, Einstadt v. Baird and Roe v. Wade, where privacy is founded in personhood, understood as the right of an agent to choose (Solove, 2008, pp. 29-31).
80 As Solove states “[t]heories of privacy as personhood, however, fail to elucidate what privacy is, because they often do not articulate an adequate definition of personhood” (Emphasis Mine, Solove, 2008, p. 31). Note that Solove’s argument is not a knockdown argument against privacy justified by personhood, as one ‘merely’ needs to articulate an adequate description of personhood. To take one example, Griffin builds his concept of a generalised human right, which includes a right to privacy, from an explication of what personhood is, and why it matters (Griffin, 2008).
At the time, I criticised other things - not being allowed to study or have a career. But looking back on it, it’s the total surveillance that damaged me the worst. I know how far people will transgress over your boundaries - until you have no private sphere left at all. And I think that is a terrible knowledge to have.’ She flicks her hair as if to get rid of something. ‘At this distance, I understand for the first time what he did to me in that room...It was the loss of everything until I had disappeared too’…” (Emphasis Original, Funder, 2002, pp. 113, 115).

Repeated minor transgressions into personal space can be as damaging as and maybe more damaging than a single major breach in privacy. “Each particular instance of [data] collection is often small and innocuous; the danger is created by the aggregation of information” (Solove, 2004, p. 59). While Solove cashes out the problem here in terms of harms, it mustn’t be overlooked that, like the Stasiland example, there is something about multiple small privacy breaches that threatens and undermines the person qua person. For example, James Griffin holds that for most of us, most of the time, privacy is an empirical necessity81 for human development: “Without privacy, autonomy is threatened...It takes rare strength to swim against strong social currents...The richness of personal relations depends upon our emerging from our shells, but few of us would risk emerging without privacy” (Griffin, 2008, pp. 225 - 226).

### 2.3.2 Intimacy

Privacy-as-intimacy is a theory that holds that it is not the particular content of something that determines its privacy; rather it is the relation between the private thing and the person. As a way of making it distinct from individual development, intimacy is interpersonal. “This theory appropriately realises that privacy is essential not just for individual self-creation, but also for human relationships” (Solove, 2008, p. 34). This idea developed in the mid 1970’s, where privacy was dependent upon relationships between people, and the levels of intimacy within these relationships:

[T]he revealing of personal information takes on significance. The more one knows about the other, the more one is able to understand how the other experiences things...The revealing of personal information then is not what constitutes or powers the intimacy. Rather, it deepens and fills out, invites and nurtures, the caring that powers the intimacy...it is of little importance who has access to personal information about me. What matters is who cares about it and to whom I care to reveal it (Reiman, 1976, p. 34).

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81 I say ‘empirical necessity’ here, as Griffin points out that privacy is not conceptually necessary for human agency – some ‘supermen’ and ‘exhibitionists’ can live without privacy. His point is that most of us need privacy at some point, in order to develop as persons.
This intimacy account clearly overlaps with privacy-as-personhood. Intimacy is important as it is a necessary component for a person to become and maintain their personhood, their agency, but is formed through our relations with others.

Julie Inness takes Reiman’s privacy-as-intimacy conception and expands it (Inness, 1992, pp. 19-22). Stating that “privacy’s content covers intimate information, access and decisions”, Inness describes privacy as “the state of an agent having control over a realm of intimacy, which contains her decisions about intimate access to herself (including intimate informational access) and her decisions about her own intimate actions” (Emphasis Original, Inness, 1992, p. 56). The source of moral concern is not based on a public/private division, rather it is invasions of, or unwanted access to, intimate personal information: “We must look at the type of information disseminated; it is the intimacy of this information that identifies a loss of privacy” (Emphasis Original, Inness, 1992, p. 58).

To simply refer to intimacy as the source of privacy’s moral importance, would be replacing one word with another, and not actually getting to the core of the moral concern, a point which Inness recognises in her introductory chapter: “privacy offers control over decisions about intimate information, intimate access and intimate actions. The only question is, what constitutes intimacy?” (Inness, 1992, pp. 9-10). Delineating between intimate behaviour and intimate motivations, Inness argues that it is not behaviours that form the basis for privacy concerns. Rather, intimate decisions are identified by their motivation dependent content. When an agent characterizes an act or activity as intimate, she is claiming that it draws its meaning and value from her love, liking or care. Intimate decisions concern such matters and, thus, involve a choice on the agent’s part about how to (or not to) embody her love, liking or care” (Inness, 1992, pp. 74-75).

On Inness’ account then, privacy is an attitudinal state, whereby those decisions, actions, or facts about a person which they love, like or care about are what form the core of privacy. Illustrating her case with an example of a love letter, Inness points out that it is not the content of the love letter that makes it important. Rather it is the fact that a love letter conveys the importance of a particular relationship between two people. When showing another a love letter, this act “draws its meaning and value as an intimate act from its tie to our love, liking or care” (Emphasis Original, Inness, 1992, p. 79). While the intimacy argument has its detractors, the intimacy discussion points out

82 Solove argues that the broad terms of identity and autonomy “could apply to almost every action or decision an individual undertakes...Without limitations in scope, the word “intimacy” is merely a different word for “privacy” and is certainly not sufficient to determine which matters are private” (Solove, 2008, p. 36). Following this, Solove then argues that intimacy is too narrow, as it can’t deal with things that are
that our relations with information produce different ‘moral meanings,’ a major argument of Chapter Five.

There are other important discussions of privacy that cut across the description/justification division, which seek to conceptualise privacy in reference to social good, context relative informational norms and data privacy, discussed in §2.5.

2.4 Privacy Questions

The issue now is how to respond to privacy. We have a range of different conceptions to choose from. Should we choose one as the definition of privacy? If we cannot settle on one conception, what happens if we considered all equally? Both approaches come with problems. Instead, we should see the different conceptions as relevant, but that they must be understood as standing in relation to each other.

2.4.1 Problems With Singular Conceptions

Of the different conceptions described so far, which one should we choose as the best conception? There are two major concerns with such an approach. Like all philosophy, any given conception has its problems and detractors. Secondly, assuming that there is a single conception of privacy, we risk discarding privacy entirely when that conception is no longer useful. One the first point, Solove’s Understanding Privacy is an example of looking at each conception, finding fault with it, and then proposing an alternate conception. Solove offers criticisms of each conception, that they are all too vague, too narrow, too broad or all three. Instead, he proposes that privacy ought to be understood by reference to social goods. However, this approach is as open criticism for being too vague, broad or narrow as the other conceptions, see §2.5.1 and §2.5.2. So, if Solove’s criticisms are correct, and his own theory is equally vulnerable to such criticisms, then it seems we reasons to discard each conception.

The second concern is that if we cannot find privacy’s ‘one true answer,’ we may throw the baby out with the bathwater: we find fault with each conception, so reject privacy entirely. This could occur because of the concern just described, or could occur when people’s behaviour no longer tracks to that definition. Thus, like Facebook and Google’s responses described in §2.0, we conclude that our behaviours reveal our true preferences, or that new technologies have ended the possibility of privacy altogether, normally private, but non-intimate (Solove, 2008, p. 36). Yet, as I show in §2.4, this lack of sufficiency is not the knockdown argument that Solove believes it to be.
so end up discarding privacy as we think it no longer serves any practical purpose. Underpinning these conclusions is the secrecy paradigm and an assumption of a public/private divide. Faced with the end of secrecy, and assuming that secrecy is only one proper conception, we discard privacy all together. We could instead look at the other conceptions, but we’re likely to confront a similar problem.

### 2.4.2 Problems With Multiple Conceptions

Instead of assuming that there is a single conception, perhaps reasonable people can disagree about which conception is right. That is, there are a number of privacy conceptions that could be said to be reasonable. However, I think that part of the reason why people might think that Facebook’s Zuckerberg and Google’s Schmidt were right in their assertions that privacy as no longer useful is the profusion and separation of different privacy conceptions. If each is right, how do we select between them, and what happens when they are conflict? By allowing multiple independent conceptions, and no interaction principle,\(^\text{83}\) we end up more confused than ever.\(^\text{84}\) Consider the opening paragraph from *Privacy, Intimacy And Isolation*:

> Exploring the concept of privacy resembles exploring an unknown swamp. We start on firm ground, noting the common usage of “privacy” in everyday conversation and legal argument. We find intense disagreement about both trivial and crucial issues...we find chaos...the ground starts to soften as we discover the confusion underlying our privacy intuitions...I seek to construct an escape route from the quagmire: a definition of privacy and an explanation of its value that will clarify and resolve our conflicts (Inness, 1992, p. 3).

Certainly philosophical disagreement is nothing new. However, if each new analysis of privacy offers *the definition* and *the explanation*, which one are we to choose? Further, by accepting multiple independent conceptions, we retain all the problems identified by Solove with each individual conception. “Privacy is too complicated a concept to be boiled down to a single essence. Attempts to find such an essence often end up being too broad and vague, with little usefulness in addressing concrete issues” (Solove, 2008, p. 103).

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\(^{83}\) This is a reference to concerns raised by Shelly Kagan in reference to moral pluralism: “A complete normative theory must include more than a list of normative factors. It will also have to include interaction principles—principles specifying how the various factors interact to determine the moral status of particular acts” (Emphases Original, Kagan, 1998a, p. 183).

\(^{84}\) This point was brought home to me at a conference I attended where one presenter began his paper saying that he had read many different philosophical positions, and given their perpetual disagreement, concluded that the philosophers were not saying anything useful at all. His response was to go and ask people what they thought privacy was, but found that such an approach did not uncover what privacy really was.
Rather than listing the different conceptions and selecting amongst them, another solution is to take a pluralistic line, but recognise that the conceptions ought to be viewed in relation to each other: The reason why none of the single descriptions or justifications work is that they do not function independently.

2.4.3 Privacy As A Cluster Of Related Conceptions

The proposal is that we look at the different descriptions and justifications, but consider them in relation to each other, understanding privacy as an organising principle that clusters the different conceptions together, and offers some explanations of their relations. The virtue of this approach is that the descriptive elements are justified by reference to moral values such as intimacy, personhood and/or harms. At the same time, we can explain the justifications by reference to secrecy and the flow of information from one space to another.

More than simply offering plural meanings, a pluralistic conception allows the different elements to both explain and limit each other. The point here is that the problem with the different conceptions viewed so far is that, in seeking to reduce privacy to a single conception, they lose the utility of the other conceptions. My point is that rather than looking for the one true meaning of privacy, we should instead look to the different elements that each conception brings to privacy discussions. Importantly, we recognise that in some situations, certain conceptions will be more relevant, others less so.

Is such an approach workable? In discussions of ownership, ‘ownership’ is typically seen to refer to a range related concepts. I discuss ownership in detail in the next chapter, relevant to this discussion is that ownership is often seen as a ‘bundle of rights’ (Honoré, 1961). That is, ownership relates to a range of different rights and duties, which vary depending on the owner and the thing owned. Importantly, despite the obvious fact that owning a handgun means very different things to owning a stock portfolio, plurality recognises that we do not throw away the idea of ownership. Nor do we say that we must limit ‘ownership’ in reference to either a handgun or a stock portfolio. Such a cluster of related concepts has proved highly useful in other areas, so why not approach privacy in a similar way? Indeed, Solove’s approach begins similarly by viewing privacy in terms of ‘family resemblances’ (Solove, 2008, p. 9). The idea of

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85 Ludwig Wittgenstein’s ‘family resemblances’, found in his Philosophical Investigations, §65 - §71 (Wittgenstein, 1958), presents a way of recognising and understanding people, things and particularly
clustering different conceptions is neither novel in legal discussions generally, nor privacy more particularly. The move here is to use the notion of pluralism for privacy.

For instance, talking of privacy as *only* informational control is problematic as information might be non-private. For instance, the fact that a person has two eyes is information about that person, but it hardly seems private. Likewise, talking *only* of intimacy is problematic. For instance, a wedding is public statement that two people like, love and care for each other, yet is conducted in public. However, a wedding is may also be considered a private function. Instead, if we see that privacy as referring to some connection between informational *and* intimacy, privacy talk makes more sense: we rule out non-intimate information like ‘having two eyes’. How do we deal with a public-but-private event like a wedding? The pluralistic approach allows for discussions of spaces, capturing the intuition that privacy typically involves some space or boundary. A wedding ceremony is conceivably conducted within a private space: consider a large celebrity wedding where the public and the press are not allowed. Privacy is maintained if no unauthorised photographs of the wedding are released. Privacy is maintained as long as the flow of information across this boundary is appropriate.

This prompts the question: what makes a given flow appropriate? Nissenbaum’s argument is that appropriateness is dependent upon the given context (Nissenbaum, 2009, pp. 140-147), and I discuss her approach in §2.5.3 and §2.5.4. We can limit appropriateness to a given set of moral values that people commonly hold like basic respect, harms, and equality. This coheres with the pluralistic morality advocated by van den Hoven, §2.5.5, allowing us to limit what counts as appropriate, whilst speaking to the individual wrongs of privacy violations as well as the group and social harms that can arise when privacy is violated. Chapter Seven has a detailed discussion on this.

The point in this section has been to show that by reconsidering it as related conceptions, privacy is deliberately broad but retains capacity to be focussed to particular issues. Further, this approach can explain why there is consistent disagreement in philosophic literature: the various conceptions fail not because they are

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86 Other information might not refer to people at all, i.e. the public disclosure of a viral genetic sequence might be socially harmful, so should be kept secret. But to talk of privacy here makes no sense.

87 I use appropriate here as a direct reference to Nissenbaum’s approach which holds that privacy is *appropriate* information flow (Nissenbaum, 2009, pp. 129-157).
wrong, per se. In the face of novel technologies they fail by being viewed in isolation from each other. A justificatory explanation is maximally useful when we can properly describe what it should be applied to. The problem is not that people explain privacy with a given focus on different conceptions. Rather it is that these explanations assume a monistic description or justification.

2.5 Pluralism In Privacy
What I am arguing here, particularly this focus on technological impacts on privacy, is not especially new. People like Daniel Solove, Helen Nissenbaum and Jeroen van den Hoven are equally concerned about the impacts of technology on privacy. Each of them offers a pluralistic type approach, similar to what was just discussed in §2.4. Despite the virtue of each approach, I think that each needs a little more detail to be maximally useful. This section presents the three approaches, offers criticisms as to their current shortcomings and offers some suggestions as to how the approaches can be improved.

2.5.1 Privacy As Social Good: Daniel Solove
Throughout his 2008 book, Solove develops a pragmatic methodology to build privacy up from a cluster of related problems.

[M]y approach to conceptualizing privacy understands it pluralistically rather than as having a unitary common denominator...Following philosopher John Dewey’s view that philosophical inquiry should begin as a response to dealing with life’s problems and difficulties, I argue that the focal point should be on privacy problems (Solove, 2008, Emphasis Original, p. 9).

Starting with problems rather than theories, Solove attempts to step around the problems he identifies with other accounts: “My taxonomy’s categories are not based upon any overarching principle. We do not need overarching principles to understand and recognise problems” (Solove, 2008, p. 105). Solove instead offers an account of privacy that is grounded in the ‘social good’. “I contend that privacy has a social value and that its importance emerges from the benefits it confers upon society... [p]rivacy certainly protects the individual, but not because of some inherent value of respect for personhood. Instead, privacy protects the individual because of the benefits it confers upon society” (Solove, 2008, pp. 79,98). For Solove, the social good is fundamental to why we should care about privacy.

88 §6.7 gives a description of explanatory priorities.
2.5.2 Limits To The Social Good

There is a tension within Solove’s approach. He clearly states that his account is built from recognising privacy problems, and understands these problems in relation to the social good. However, by doing this, he seems to be repeating the mistakes that criticises in others. Take his pluralistic approach that “[p]rivacy is too complicated a concept to be boiled down to a single essence. Attempts to find such an essence often end up being too broad and vague, with little usefulness in addressing concrete issues” (Solove, 2008, p. 103). Yet his account, while being ‘problem driven’, defines these problems in reference to society, particularly in reference to the harms that privacy problems cause for society. One of his motivations was to avoid structuring an account of privacy around an essentialist theory, yet his account is derived from such a theory:

That privacy problems just _are_ harms, in particular harms to society.

One concern with Solove’s references to society is that his account is framed by, and founded upon, references to society, so the harms that he presents become vulnerable to the same criticisms that he uses against the other conceptions of privacy. His standard criticism is to show that the other conceptions are too broad, too vague or too narrow. So what counts as ‘society’ in Solove’s description? By defining privacy simply in reference to ‘social harms’, we can see that Solove is too vague; without offering a clear and usable explanation by what he means when he refers to society, we are left with an amorphous and shapeless idea, one that “fails to provide much guidance about what privacy entails” (Solove, 2008, p. 17). Without guidance, we are left without a justifying reason as to why social goods are to be favoured over individual goods, and ultimately have no way of balancing conflicts between the interests of society and individuals.

Further, Solove’s account is too broad in that Solove seems to allow that privacy is that which is deemed private by a particular society “privacy is not simply a subjective matter of individual prerogative; it is also an issue of what society deems appropriate” (Solove, 2008, p. 25). On this, it would seem that if a particular society deems X thing appropriately private, then X becomes private. “I have contended that the value of privacy should be understood in terms of its contribution to society” (Solove, 2008, p. 173). However, this does not help us as we have no clear idea of what he means by society. Is this a simple cultural group, is it a linguistic group, a nation, or all people everywhere? Without further guidance as to what should be/should not be deemed appropriate, and what counts as society, Solove’s foundation of social harms
rehashes the points made in §1.3. In short, Solove’s own account fails the criticism that he levels at others.

I don’t intend this to be a knockdown argument against the either the social good or its role in privacy. My criticism is more particular – an analysis of privacy and harms needs more substance about just what those harms are, and some explanation about how they should be weighted in relation to other social goods. §7.5 presents a structured taxonomy of informational harms, and §7.7 offers some, albeit limited, guidance as to how such harms can be weighted against each other, and against other concerns such as rights and equalities. My goal is to offer substance to Solove’s ‘social good’ such that we can both recognise harms more easily and respond to them in a more nuanced way than a simple maximisation of public good.

2.5.3 Context Relative Informational Norms (CRINs): Helen Nissenbaum

As with the pluralistic move, and in accord with Solove, Nissenbaum recognises that “[n]o single principle seems perfectly suited; yet each embodies themes that are importantly related to privacy” (Nissenbaum, 2009, p. 125). Seeing a need to respond to the technological challenge (Nissenbaum, 2009, pp. 21-64), she argues that we should respond to privacy concerns not by reference to some particular conception of privacy. Rather, we should instead focus on determining appropriate information flows. “Usually, when we mind that information about us is shared, we mind not simply that it is being shared but that it is shared in the wrong ways and with inappropriate others” (Nissenbaum, 2009, p. 142).

Accordingly, she develops a heuristic which aims to explain what has gone wrong, and can tell us how we ought to respond. She calls these context relative informational norms (CRINs). These CRINs are “characterized by four key parameters: contexts, actors, attributes and transmission principles” (Nissenbaum, 2009, p. 140). Contexts are “the condition of application, of the circumstances in which an act is prescribed for a subject” (Nissenbaum, 2009, p. 141). The actors would be of three types, “senders of information, recipients of information, and information subjects” (Nissenbaum, 2009, p. 141). For instance, in assessing an information flow, we need to know who is sending, who is receiving the information and who the information is about. Communicating details of a sexually transmitted disease might be appropriate if

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89 I note here how Nissenbaum’s types of informational actor are similar to Person As Source and Person As Target Person, developed in §7.2.
it is between a medical doctor (sender) and their patient (receiver and subject), but inappropriate if it is between a medical doctor (sender) and the friend (receiver) of the patient (subject). This brings us to the attribute, or information type. “[N]ot only who [the information] was about and to whom and from whom it was shared, but what it was about…A technical term with similar meaning is data field” (Emphasis Original, Nissenbaum, 2009, p. 143). Finally, we need to know the transmission principles, a “constraint on the flow of information that…expresses terms and conditions under which such transfers ought (or ought not) to occur” (Nissenbaum, 2009, p. 145).

For Nissenbaum, the CRIN model can both explain why people feel concerned about some privacy violation, and how to respond to it. Take social networks like Facebook. Many people feel that these social networks violate privacy, but when asked to explain how, they can find themselves at a loss. The CRIN model says that what people feel is that these new technologies are affording practices that are different to the prevailing informational norms: traditionally, we only shared personal information with those spatially, temporally and/or emotionally close to us. New technologies allow for sharing of this personal information beyond the traditional spatial, temporal and/or emotional limits. As such, we are now operating under a new informational norm.

2.5.4 Extending CRINs

I agree with much of what Nissenbaum says: her critique of privacy is accurate and informational flow seems to an appropriate focus of concern. Further, in line with Nissenbaum, we need to assess the social-institutional contexts in which information is being produced, communicated and used. Finally, assessing this information use in relation to existing social norms is a sensible way to go. While agreeing with much of Nissenbaum’s approach, I think there is more that needs to be added. In short, we need to establish just how new technologies disrupt CRINs, and when we should care. i.e. we need moral explanation and moral motivation. The goal of this thesis is to establish a link between practice and relevant moral norms such that we know why something is morally problematic.

Consider Nissenbaum’s example of why we should be concerned about social networks, she says that this new technologically mediated practice is morally troubling because it threatens to disrupt the delicate web of relationships that constitute the context of social life, injecting into workplace and business contexts information of the wrong type, under inappropriate transmission principles…[but] for substantive conclusions to be drawn, one
wold need to elaborate and demonstrate key dependencies (Nissenbaum, 2009, p. 228).

We need to be able to say just why we should be concerned about such disruptions to relationships, to go beyond saying that relationships are important, and that disruptions to these relationships can be bad for people. This is what I mean by moral explanation and moral motivation: by showing just how a new technology disrupts the relations between people, we can hopefully explain the moral weight of this disruption. And, presuming that morality has some motivational feature, by explaining the weight of this disruption, we can further say why we ought to care about such a disruption.

Chapter Seven describes such disruptions by exposing how changes in information flow afforded by new technologies changes how a person sees themselves, how they see others, and how they see others see themselves. Succinctly stated, new information technologies are morally concerning because of the ways that they can impact on identities. If these impacts are shown to result in some deep misrecognition and/or to cause harms to people’s self identity and/or their treatment of others then, in line with Nissenbaum, we should be morally concerned about such technologies. “[H]aving demonstrated that some of the practices performed in social network sites…[are violations of] contextual integrity, can we further demonstrate that they are morally problematic?” The goal of Nissenbaum’s approach is to fill out “[t]he evaluative step…to compare entrenched and novel flows in terms of values, ends and purposes of respective contexts” (Nissenbaum, 2009, p. 227). What my analysis adds to Nissenbaum is detail on a particular set of entrenched values – basic respect and harm reduction, and a detailed explanation of how the novel flows of information impact these values. In line with the role of ethics outlined in §1.4, the goal of this thesis is to link practice with moral norm. This is not an argument against CRINs, but the next step in filling out the details.

2.5.5 Data Protection: Jeroen van den Hoven

Van den Hoven’s account raises concerns similar to Solove, but takes a different approach. Rather than collapse privacy into social good, in a series of papers (van den Hoven, 2007b, 2008; van den Hoven and Manders-Huits, 2006; van den Hoven and Weckert, 2008) van den Hoven develops a theory of ‘data protection’ in response to the question “why should we protect personal data; what moral reasons do we have to protect personal data?” (van den Hoven, 2008, p. 466). The data protection account seeks to avoid unnecessary conceptual debates about what privacy is, and instead
focuses on the *ends* of privacy. It asks what privacy is actually doing for us and why access to information should be constrained (van den Hoven, 2007b, p. 320). He does so by identifying four key moral justifications for protecting data.

1. Information based harms,
2. Informational inequality,
3. Informational injustice,

Information based harms arise when someone is harmed by the use of personal information, like identity theft resulting in financial and physical damages (van den Hoven, 2007b, pp. 321-322). Informational inequalities occur when a person has unequal access to a service or product as the result of handing over or giving access to their personal information. Informational injustices build from Michael Walzer’s *Spheres Of Justice* (Walzer, 1983), and occur when information intended for use in a particular context is used in another context. A paradigm example would be medical information used for economic gain: The original context of the information was medical, and it is an injustice if this information is transferred *without consent* for economic benefit. Following this, the final concern tracks back the concept of informational and personal development described in §2.3.1.

2.5.6 Giving ‘Oomph’90 To Data Protection

What can my account do that an account like van den Hoven’s is not? The main strengths of van den Hoven’s account are that he avoids the need to define privacy, and so can focus on pluralistic discussions of privacy. The concern that I have with the data protection account is that the relations between the information covered by data protection, and its moral foundations are not entirely clear. This concern is made evident when considering innocuous personal information.

Consider the keystroke information described in §2.1. Speaking of data protection independent of the data itself and its specific relation to moral foundations provides little on what data should be protected: is surveillance of a single keystroke the same as the surveillance of a day’s, a week’s etc. If not, why not? When we talk of privacy concerns just as a moral problem of harm, inequality, injustice or autonomy

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90 ‘Oomph’ is a term that Richard Joyce uses that seeks to locate and explain why a certain thing has moral weight or authority (Joyce, 2006, pp. 170-171).
violation, we risk making informational misuses and transgressions true but trivially so. Further, they can become lost amongst the world’s other harms, inequalities, injustices and violations of autonomy: Karl’s suffering from keystroke logging programs seems insignificant contrasted with all the world’s other harms. Yet with the rise of so many informational technologies, these harms may be significant.

To prevent data protection shrinking in importance, we need to explain the connection between data and its moral foundation. This point is clear when considering innocuous information, which is only troubling when considered in aggregate. We cannot simply talk of harms or other moral problems; we need to give a principled reason why certain data needs to be viewed in aggregate. This thesis seeks to expand on pluralistic approaches by investigating the relations between the moral foundations like those identified by van den Hoven and data protection, ultimately giving data protection its ‘ethical oomph’.

A further virtue coming from an explication of the relations between data and why we should protect it will not only tell us why we should care about such things, it may also help guide us in how to respond and prevent the problems that data protection is attending to. A standard problem of pluralistic approaches is how to respond to conflicts between the different values. For example, if we need to update a research participant’s name and contact details, such that their medical data is not used outside of the original contextual spheres, we will be faced with a potential conflict between informational autonomy and informational injustice. Offering a detailed explication of the relations between data and the moral foundations, we have a mechanism that can balance conflicts within data protection.

The general point of this section is not that Solove, Nissenbaum or van den Hoven are wrong: I agree with their positions to a great degree. The goal is to add to their accounts. By exploring the relations between identity and information, we can fill out the pluralistic approaches and begin to find a way to balance conflicts. In order to do this, later chapters conceptualise identity and information, and explore in detail the relations between them. Chapter Seven then returns to moral concerns, to privacy in §7.4.1. Building from this interactionist and pluralistic approach to privacy, the basic rule of thumb offered is that the more revealing information becomes, we ought to consider it a threat to privacy, a claim substantiated in Chapter Seven.
2.6 Kate And Karl Revisited

§2.1 described keylogging software. Recalling the characters from that case, both Kate and Karl were having a bad day in the office, and after this was recognised, both were assigned to different tasks. The difference between the two cases was that it was Kate’s supervisor who recognised she was having a bad day and reassigned her, while in Karl’s case, it was an automated computer program that did this. This computer program recognised Karl’s state of mind through software that logged and analysed the patterns which he typed, keylogging software twigged to the behavioural clues supposedly embedded in Karl’s typing patterns. So what can pluralism tell us about Karl’s case? Is there any privacy violation going on in Karl’s case? If so, is it morally different from Kate’s case? Finally, even if it is morally different from Kate’s case, is the breach of Karl’s privacy something that we should be worried about?

Karl’s case is significantly different from Kate’s, and it is something that is moral concerning, as explained by the cluster of privacy conceptions. To show how this relates to Karl’s case, firstly we need to look closely at the information produced by the keylogging software. Can this information be described as intimate personal information about Karl? If the information is intimate, would Karl have reasons to restrict access to it, does it deserve protection? Finally, does this show how Karl’s case is different from Kate’s?

The first question is whether the information produced is intimate. That is, is it information that someone would reasonably be expected to like, love or care about? Recall from §2.1 that there are two types of information that are produced by keylogging software: (1) Information that can identify a particular worker and (2) Information that can identify the emotional state of the worker. Given that the information of type (1) is equivalent across both Kate and Karl’s case, information of type (2) is what is most relevant. Information of type two is behavioural information, and what’s more, it is aggregated behavioural information. “[W]e are reconstituted in databases as digital person composed of data” (Solove, 2004, p. 49). If accurate, the keystrokes present a record of Karl’s emotional states the entire time he is at logged in at work. I believe this record of one’s emotional states is something that contains information that most people would like, love or care about – it is intimate information.

Secondly, consider what this information is about. It is not simply the bland details of how Karl types, but capable, or at least claimed to be capable of, producing information that “can open a window into people’s minds” (Solove, 2004, p. 24). One’s
own mind is a place that would be considered within a zone of the most private things about a person. The description of the deleterious effects of the pervasive surveillance in the former East Germany speaks to this lost space within one’s mind “I know how far people will transgress over your boundaries - until you have no private sphere left at all...It was the loss of everything until I had disappeared too” (Funder, 2002 Emphasis Original, pp. 113, 115). Privacy as personhood connects to the concern about Karl’s case: the information produced by the keylogging software exposes Karl’s state of mind, and can do so without his knowledge or full consent. By stepping into the zone of Karl’s state of mind, keylogging software has stepped into a space typically reserved for the self and close others.

Is this any different from Kate? Note that the keylogging software produces a virtual identity for Karl that is not comparable when Kate’s supervisor attends to her. While both examples involve the production of, and access to employee behavioural information, in Karl’s situation this information is digital. What this means is that it will not degrade with time or use, it is accessible to staff beyond the immediate supervisor and it can be aggregated with other information. It is this, I suggest, that makes Karl’s case relevantly different from Kate’s: not only is it producing private information, the virtual identity produced by keylogging software can be accessed by many different people, at many different places and times, and it also has the potential to be aggregated with other information about Karl. “[T]he increasing digitization of documents enables more documents to be retained by eliminating storage constraints, increases the ability to access and copy documents and permits the transfer of documents en masse” (Solove, 2004, p. 132).

While a data protection scheme like van den Hoven’s sets the groundwork for approaching the problem, it needs the ‘oomph,’ telling us why we ought to care about Karl’s interests, above and beyond our other moral concerns. By explaining Karl’s case in reference to Virtual Identity, I hope to pull into focus not only the real practical concern – the construction of a Virtual Identity from aggregated personal information, but to also present a set of ethical justifications as to why this is a problem special enough to warrant due care and attention.

So in Karl’s case, we have intimate personal information. This would be a set of information that Karl could legitimately consider private, where unwanted access would be an invasion of Karl’s privacy. This information produces a virtual identity for Karl, so it is relevantly different from Kate’s case. Finally, is this a cause for moral concern?
If I can show why Karl should have a claim to limit other’s access to this information, that the use of the information could be harmful or lead to substantial inequalities, I would be able justify a claim of why such information should be treated with care. These claims are substantiated through the later chapters of this thesis.
Chapter Three: On Ownership

3.0 Ownership

Chapter One argued that there are problems, ethical vacuums, arising from convergent technologies and information and asked whether there were existing conventions\(^{91}\) to deal with these ethical vacuums. Chapter Two looked at privacy as one such existing convention and offered a pluralistic conception of privacy which takes into account relations between the different privacy conceptions. Ownership\(^{92}\) presents another convention that might be able to deal with ethical vacuums arising from convergent technologies. Like Chapter Two, this chapter begins with two cases that focus on informational issues arising from technology to display problems with ownership’s capacity to deal with convergent technologies. The chapter shows that ownership conventions, currently construed, do not sufficiently connect recognition of property claims over personal information with ownership’s legitimating justifications.

§3.2 looks at descriptive approaches to rights of ownership, §3.3 explores the three major justifications for such rights – social good, labour investment coupled with historical entitlement and psychological individuation. §3.4 shifts to intangibles, focussing on how people can justify claims of ownership over personal information and shows them lacking. §3.5 then shows how these justifications are problematic when they consider innocuous personal information, like the introductory cases in §3.1.

Chapters Four - Seven are a sustained discussion of identity and information, their relation and the moral importance of this relation in the face of informational technologies.

3.1 Who Controls Personal Information? The Cases Of Canavan’s Disease And Catalona

This section introduces two legal cases from the U.S. They illustrate the ownership of personal information. They illustrate also that the legal owner(s) is not necessarily the same person as the one who provided the information, nor to whom it is most relevant.\(^{93}\) The core question of this chapter is what justifies a moral right of ownership over

\(^{91}\) Convention here means some relatively established social practice for directing behaviour such as privacy and property law.

\(^{92}\) Throughout this chapter, ownership, ownership rights, property and property rights are used somewhat interchangeably.

\(^{93}\) ‘Most relevant’ means that there is a strong ‘Hegelian’ connection between person and the information. This is explained in §3.3.3 and §3.5.
personal information? Given the role of informational technologies in our lives and commercial practices, it is important that we can explicate the steps between personal information and a legitimate claim of ownership over that information. Note that, despite starting with legal cases, the focus is not on legal concerns. Instead, the focus is on the moral claims that may sit below the legal decisions.94

Case 1: Greenberg v. Miami Children’s Hospital Research Institute – Case 264 F. Supp. 2d 1064 (S.D. Fla. 2003)95

Canavan disease is a genetically inherited autosomal recessive disorder that typically results in mortality of those afflicted by 4 years of age.96 In the late 1980s, community members and groups in the U.S., including the Greenberg family who had a child with Canavan disease, approached a researcher, Dr. Reuben Matalon from the Miami Children’s Hospital Research Institute (MCHRI). Matalon and the group aimed to identify the genetic sequence responsible for Canavan disease. Using donated patient blood, tissue samples, familial pedigree information, as well as receiving financial assistance from the group, in 1993, Matalon’s research team successfully isolated and identified the genetic sequence for Canavan disease.

In 1997 Matalon and the MCHRI were granted a patent on this identified genetic sequence. This patent gave Matalon and the MCHRI the legal right to “restrict any activity related to the Canavan disease gene, including without limitation: carrier and prenatal testing, gene therapy and other treatments for Canavan disease and research involving the gene and its mutations” (United States District Court, 2003). As such, the MCHRI could prevent centres from offering free genetic testing of Canavan disease; centres had to give royalty payments or needed enter into licensing agreements with the MCHRI. This patent was challenged by the Greenberg family and others. In 2003, Greenberg and the others lost the case. As such, the patent was upheld and Matalon and the MCHRI maintained the right to limit testing, gene therapy and commercial research on the genetic sequence responsible for Canavan disease.

94 I say ‘may’ here, as I don’t want to enter into discussions of legal positivism versus natural law. For two accounts of legal positivism and natural law see Tom Campbell’s The Legal Theory Of Ethical Positivism and Ronald Dworkin’s Taking Rights Seriously (Campbell, 1996; Dworkin, 1978).
95 For court proceedings, see (United States District Court, 2003).
96 For information on the disease see (Surendran, Matalon et al., 2003; Surendran, Michals-Matalon et al., 2003).
Case 2: Washington University v. Catalona – Case 4.03-cv-01065-SNL\(^97\)

This case concerns a medical researcher, Dr. William Catalona, his former employer, the Washington University (WU) and ownership of samples and information relating to patients with prostate cancer. In the early 1980’s, Catalona began to collect and store blood and tissue taken from patients during surgery. By 2006, WU had in excess of 30,000 tissue samples from research patients, 100,000 serum samples, 4,400 DNA samples; Catalona was linked to about 10% of patients who had donated these samples. The samples formed a ‘biobank’ known as the Genito-Urinary (GU) Biorepository, which Catalona was “instrumental” in establishing (United States District Court, 2006).

In 2003, Catalona changed jobs to work for North-Western University (NWU), and tried to take samples and linked medical records with him.\(^98\) Catalona contacted many of his former patients to see if they would allow their samples to be transferred with him to NWU. Approximately 6,000 patients replied that they wished the samples to be transferred with Catalona. WU claimed ownership over the samples, and sued Catalona and the patients that he represented, to maintain exclusive ownership over the samples. In 2006 the court found that the samples remained under WU’s control, despite the content of informed consent forms and the explicitly stated intention of the research subjects:

> Washington University owns all biological materials, including but not limited to blood, tissue, and DNA samples in the GU Repository...neither Dr. William Catalona nor any research participant in connection with any research protocol conducted under the auspices of Washington University has any ownership or proprietary interest in the biological samples housed in the GU repository (United States District Court, 2006).

As with the Canavan’s case, the recognised owner, WU, was not the original source of the information.

These cases are relevant in that they focus on the practical recognition of ownership of personal information. Though there are important legal differences in both cases (Andrews, 2006), in each case research subjects and patients were denied ownership over personal information because tissue, blood and medical information they provided were given as donations. Instead, institutions and their current employees were the legally recognised owners of the samples and information. As such, donors and research subjects lost any legal rights of ownership over the samples, and the

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\(^97\) For court proceedings, see (United States District Court, 2006).

\(^98\) Note that this case was not only about ownership of raw materials – patient samples etc., but also about the information pertaining to these materials – linked medical records. Such ‘pre-existing’ knowledge about the samples is essential to producing useful information from the materials. The reasons that sit under this claim are given in Chapter Five.
information linked to them. Relevantly, in both cases, the samples were donated with
the stated intention of furthering medical research: the donors were not seeking
economic returns from their samples; rather they wanted to aid in medical research such
that they and others could gain some benefit from their diseases.

In these two cases, do the donors have moral rights of ownership over the
personal information? If so, do these claims trump claims made on behalf of institutions
like MCHRI? To answer this question, we must first look at what it means to own
something, what justifications can be offered for ownership, how these justifications
track to owning the intangible, and, finally, how can we justify ownership in personal
information. Finally, in §3.5, I point out that one of key moral elements of the personal
information, like that in the Catalonia and Canavan’s cases, is the relation that occurs
between something like a person’s genetic sequences and their personal medical
histories. In short, I begin to show that there is some morally important relation between
identity and information.

3.2 Ownership Described
This section gives a brief description of what rights are, and shows that ownership is
often described as a bundle of rights. The problem of scarcity is introduced, and shows
that, in conditions of scarcity, ownership requires us to know who owns what. §3.3 then
looks at how ownership claims can be justified.

3.2.1 Ownership: Rights And Bundles Of Rights
Ownership is often referred to as a right, but what are rights? To answer this question in
full would take an entire thesis at very least.\(^99\) Second to this is the ‘horrible ambiguity’
common to rights speech (Kagan, 1998a, p. 170). However, there are common ways of
describing rights without writing a full thesis on the topic or descending into ambiguity.
Common to most rights talk is the primacy of the individual. “To have a right is to have
something that overrides other considerations in both moral and legal discourse...In
their typical expression, rights are attractive because they express the great moral
significance of every individual human being” (Campbell, 2006, p. 3). Another way of
saying this is that “the language of rights and claims [shifts] the focus of our attention
from the agent (and what she is required to do) to the right holder (and how she has a

\(^99\) The edited collection *Theories Of Rights* presents a good overview of different accounts of rights
(Waldron, 1984).
right to be treated)‖ (Kagan, 1998a, p. 172). Given the importance of the individual, their right ‘trumps’\textsuperscript{100} other considerations like maximising wellbeing.

To explain further, consider the contrast between utilitarianism and standard rights talk.\textsuperscript{101} On a simple understanding, utilitarianism seeks to maximise overall utility: maximum good for maximum people. “[T]raditional Utilitarianism seeks to maximise the sum total of hedonic units. It is uninterested how these units are combined into lives and is thus willing to sacrifice one person’s life to provide a small amount of happiness to a large enough number of people” (Mulgan, 2001, p. 17). Standing in contrast to this is the concept of a right that protects against the overriding nature of utility maximisation: “[I]n a strong sense...If someone has a right to something, then it is wrong for the government to deny it to him, even if it would be in the general interest to do so” (Dworkin, 1978, p. 269). So, as they are commonly understood, rights talk locates the individual as the object of moral concern, and protects against intrusions, even intrusions that maximise overall social good.\textsuperscript{102}

Jeremy Waldron’s *The Right To Private Property* takes the foundation for private property to be rights based. That is, on his account, when considering the moral basis for ownership, the object of moral concern is the agent qua rights holder. From these rights, a correlative set of duties are generated in other people to observe and respect the agent’s rights.\textsuperscript{103} He proposes that “[i]n a system of private property, the rules governing access to and control of material resources are organized around the idea that resources are on the whole separate objects each assigned and therefore

\textsuperscript{100} This idea of ‘rights as trumps’ is often associated with Ronald Dworkin’s naturalistic account of rights, particularly *Taking Rights Seriously* (Dworkin, 1978). The Dworkinian ‘rights as trumps’ position is not being advocated here. Rather, it is showing that, for whatever justification, the individual is seen as specially important in rights talk.

\textsuperscript{101} This is intended to be a simplified presentation of consequentialist thinking, in this case, utilitarianism, and is more a caricature of utilitarianism than an accurate representation of any sophisticated utilitarian system. Likewise, the reference to ‘standard rights talk’ presents not only a simplified description of rights, but a caricature of how people talk about rights. The purpose is to show common elements in the way that rights are conceptualised, and one way of doing this is to contrast them with a ‘good-maximising’ theory like utilitarianism.

\textsuperscript{102} In line with the discussion in §1.4, this section is not arguing that a consequentialist system is unable to recognise rights, nor that a rights system is unable to respond to extreme consequences. Some accounts of consequentialism may be able to recognise rights (Pettit, 1988), and some deontological theories, like threshold deontology (Alexander, 2008, pp. 85-90), respect individual rights but only up to a given threshold.

\textsuperscript{103} Note here Jeremy Waldron’s point that rights and duties have different moral foundations and speak to different moral concerns. That is, “X has a right (against Y) to do A...is regarded as logically equivalent to, indeed as a mere notational variation on, something like...Y has a duty (owed to X) not to do B” (Waldron, 1988, p. 68). He goes on to point out that this logical equivalence is not necessarily accurate, as rights and duties take different things to be the location of moral concern. Rights are typically concerned with the patient, with duties to the patient being generated from the right. Duties, however, have their primary concern in the agent’s action towards the patient, with the patient’s rights being generated from the agent’s duty (Waldron, 1988, pp. 70-73).
belonging to some particular individual” (Waldron, 1988, p. 38). The point here is not to say that Waldron’s account is necessarily correct. Rather it is to provide some guidance as to what is meant when someone says that ‘Person Y owns X’: there are likely a system of rules governing access to, and control over, X, organised around the idea that the X is a separable object assigned and belonging to the named owner, Y. As Y is the legitimate rights holder, another party, Z, must respect Y’s rights or face sanctions for taking X. In line with rights, so described, the individual’s ownership claim is seen as something special and important.

Following A. M. Honoré, ownership is typically considered to be a bundle of rights. Honoré’s bundle consists of eleven rights and/or duties: The right to possess, the right to use, the right to manage, the right to income, the right to the capital, the right to security, the power of transmissibility, the absence of term, the prohibition of harmful use, liability to execution and residuary character (Honoré, 1961, p. 112-124). Waldron notes that the bundle concept is intended to display that ownership is more a set of similarities like the Wittgensteinian family resemblance briefly mentioned in §2.4.3 (Waldron, 1988, p. 49). Like the idea of privacy as a cluster, depending on the circumstances, different rights will be in play, in different ways and in different configurations. It is an important point to highlight that a given situation need not involve all or even many of the eleven rights of the bundle. For instance, owning a house, a car, a lion or a handful of grapes will entail different rights and different duties.

3.2.2 Scarcity
Ownership over things typically arises in situations where a given thing is scarce: “In all times and places with which we are familiar, material resources are scarce relative to the human demands that are made on them...Scarcity, as philosophers from Hume to Rawls have pointed out, is a presupposition of all sensible talk about property” (Waldron, 1988, p. 31). According to Waldron, the situation of scarcity generates a ‘problem of allocation’ – who gets what and why? If this problem is not dealt with properly, then conflict is likely to arise (Waldron, 1988, p. 32). Consider grapes – if there was a location where grapes naturally grew in abundance all year around, without the need for cultivation, in amounts so great that everyone who liked grapes was able to eat to their fill without noticeably reducing the abundance of grapes, there would

104 Note that in §3.4 when looking at ownership of intangibles, scarcity does not need to arise over a given thing for ownership rights to be invoked. Ownership rights over one thing, such as an intangible idea, might be pursued in order to gain ownership over another thing, such as money.
seem\textsuperscript{105} be no need for ownership. Yet if any of these conditions was to change; if the grapes required cultivation to grow, demand exceeded supply, or they only grew in abundance at particular points in time, there would be scarcity. It is this scenario, of a scarcity of grapes, where problems of ownership arise: There needs to be some way of allocating the grapes such that conflict between grape lovers does not break out.

### 3.2.3 Who Owns What?

Imagine Louise has a plot of land with an abundance of grapes, and a situation of scarcity arises. Louise now says that she owns these grapes. When Louise says ‘I own these grapes’, what does that mean? Firstly, her ownership claim arises between people. Ownership does not simply require scarcity but another person or thing to lay a claim of ownership against – and it need not be (though typically will be) another person or people; Gods or thieving insects will suffice.\textsuperscript{106} This point of the intersubjective nature of ownership, often overlooked, is recognised at the very beginning of Peter Drahos’ A Philosophy Of Intellectual Property: “Like other property rights, intellectual property rights are relations between individuals...property rights entail relations between two people \textit{and} between a person and an object” (Emphasis Original, Drahos, 1996, pp. 1, 4). A claim of ownership will state or imply who the owner is, what they own and who they are claiming ownership against.

Following this, I call attention to four things in Louise’s statement ‘I own these grapes’. Firstly, the claim identifies an owner (Louise), secondly, it identifies the thing that is owned (these grapes), third, it is a claim against everyone else. As we will see in §3.4, these three aspects are not necessarily going to be so cut and dried. Finally, Louise's statement implies that her claim is justified.

### 3.3 Ownership Justified

This section looks at ways that ownership of tangible\textsuperscript{107} objects is justified. One way is to identify the first occupant: Louise might say, ‘I own these grapes because I got to

\textsuperscript{105} The language is deliberately vague here, as this is a contentious claim. However, to get the discussion started, Waldron’s claims in The Right To Private Property about scarcity are assumed to be correct (Waldron, 1988, pp. 31-32). Later sections explore ownership of intangibles, situations where ownership is invoked beyond material scarcity.

\textsuperscript{106} This is an obscure claim, but imagine if natural forces take something away from you. It seems appropriate within common language, to say ‘damn you God, that was my house you washed away’ or ‘hey ants, stop eating my ice-cream sandwich.’ The point here is that the agent is expressing some ownership claim against another agent, and that second agent does not necessarily have to be a human for language of the ownership claim to make sense, though it remains to be seen if the claim is justified.

\textsuperscript{107} §3.4 discusses ownership of intangibles.
them first.’ There are two immediate problems with this justification. Firstly, what happens if Sean takes grapes from Louise’s crop that she has not touched or grasped? Sean is the first occupant, so he attains rights of ownership over these particular grapes. Yet this reduces ownership to ‘finders/keepers,’ and does not track to most legitimate justifications of ownership. More substantially, this does not justify ownership; instead it is a claim to identify the owner. Even if we are to recognise Sean’s claim, in order to justify ownership, a story needs to be told why first touch equates to ownership.

3.3.1 Social Good

The basic premise here is that property rights promote social good: whether it is the institution of property generally, or property rights in a set of given things, a key justification is that such rights maximise the good for all in a given society, what I’ll refer to as ‘social good’. Consider Thomas Hobbe’s famous that the “warre of every man against every man”, makes “the life of man, solitary, poore, nasty, brutish, and short” (Hobbes, 1968, pp. 188, 186). This state arises when people are “without a common power over them to keep them in awe, [so] are in a state of war of every person against every other...Hobbes contends that, in the state of war, there is so little security of life and property, that all live in constant fear and productive work is pointless” (Kavka, 1983, p. 292). Without an authority of some sort to secure life and property, everyone’s life is bad. While Hobbe’s account is centred on the importance of authority for security in general, Gregory Kavka points out that the securing of property is one of the fundamental roles for the given authority (Kavka, 1983). We all benefit by having secure property, as part of the bulwark against a war of all against all.

David Hume presents a case for ownership founded on social good and self-interested agents. The “principal disturbance in society arises from those goods, which we call external, and from their looseness and easy transition from one person to another” (Hume, 1985, p. 541). We fix the external goods that we have acquired through “labour or good fortune” which “can be done after no other manner, than by a convention enter’d into by all the members of the society to bestow stability on the possession of those external goods” (Hume, 1985, pp. 539 - 541). Like Hobbes, Hume locates the importance of conventions to fix property to an owner as a way of promoting security. “[I]t is by that means we maintain society, which is so necessary to their well-

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108 In this section, when I talk of ‘social good’ I mean something that is held to be good for a given society. Unless otherwise specified, I do not mean to refer to a good that can only be realised by a given society – public healthcare, education, road infrastructure etc.
being and subsistence, as well as to our own” (Hume, 1985, p. 541). The support for a set of social conventions recognising ownership arises from enlightened self-interest: “I observe, that it will be for my interest to leave another in the possession of his goods, provided he will act in the same manner with regard to me” (Hume, 1985, p. 541). On Hume’s account, rational self-interested agents all benefit from a stable society, and property rights are needed to secure such stability.

Similar to arguments from social stability, another justification comes from the increased welfare\(^{109}\) that ownership promotes. This argument holds that ownership encourages production of goods which are directly beneficial to people’s wellbeing. For example, ownership encourages Louise to grow more grapes than she needs, and these grapes can be distributed. This way, Louise’s land not only increases her wellbeing by providing her with grapes but also increases the wellbeing of others.

The flip side to this argument is that people are harmed by not having a system of property rights. This is often referred to as the ‘tragedy of the commons,’ in which all are harmed from individual overexploitation of natural resources (Hardin, 1968). Allowing open access to natural resources, each agent benefits by use, but all suffer when the natural resources run out or are polluted. “Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all” (Hardin, 1968, p. 1244). Despite Hardin’s idea that private property can be detrimental to protecting the commons,\(^{110}\) the ‘tragedy of the commons’ is often used as an argument in support of individual property rights:

What the private owner holds, he protects, cares for, betters. The environment gains ipso facto. This corollary is worthy to be heeded by those who these days are anxious about the fate of the elephant, the rhinoceros and the fish stocks of the ocean. While these remain in the state of *ferae naturae* (free ranging and wild) there are first cousin to *res nullius* (nobody’s thing). Trammel them round with a private property fence and Lo! they are at once and henceforth safe from marauders, predators, free-riders and the madding crowd. Not only so; they are open as never before to the democratic interchanges of the free market in property, the acquire value, it pays to bred and rear them – the species is safe (Denman, 1997, p. 166).

\(^{109}\) Welfare here does not refer to state support of individuals, like the ‘welfare state.’ Instead it refers to Shelly Kagan’s description of ‘welfarism’ which “claims that well-being is *all* that matters” (Emphasis Original, Kagan, 1998a, p. 48). On Kagan’s description, a strict welfarist holds that wellbeing (however described) is the only value to be considered and so this ought to be maximised.

\(^{110}\) “Indeed, our particular concept of private property, which deters us from exhausting the positive resources of the earth, favors pollution” (Hardin, 1968, p. 1245).
Looking at social good and property rights, an institution of private property reduces the harms arising from overexploitation of resources held in common.

A related, but different strand to the ‘property as wellbeing’ argument is the concept that people benefit from some institutional recognition of ownership, as this ownership forms the basis for economic development and growth: “[E]conomic growth occurs if output grows faster than population...economic growth will occur if property rights make it worthwhile to undertake socially productive activity” (North and Thomas, 1973, p. 9). Property rights can encourage labour or innovation, which increase production of consumable goods, forming the basis for market capitalism. While there are different mechanisms operating within this, the basic argument is that economic growth is a good thing, property rights encourage economic growth, therefore, property rights ought to be recognised.

While the economic argument is similar to utilitarian reasoning, it can differ in (at least) two ways. It places the economy as an intermediate step between property rights and wellbeing. The presumption here is that a growing economy and increased efficiency will result in increased wellbeing. The second difference is that for some people, economic liberty is a right in itself, and such, utilitarian reasoning should not interfere with private property. This idea of property rights to an essential difference between social goods theories and economic libertarians. ‘Property as stability’, ‘property wellbeing’ and ‘property as growth’ arguments all recognise a need for property, and institutionalise this need in terms of rights. However the moral justification of the rights claim is not in the individual’s property rights: the rights are contingent on property leading to some other good – social stability, economic growth, overall wellbeing etc. As they are contingent upon these other goods, the rights might be justifiably overridden when the other goods demand it. The economic libertarian, in contrast, may hold that an individual’s property rights trump any social goods that may be gained by overriding the individual’s claim. This point is relevant in §3.4 and §3.5, when discussing the conflicts in ownership of intangibles.

111 See §3.3.2 for more on labour theory and property, and §3.4 for more on innovation and property.
112 Of course, there are a number of important moral and empiric claims contained within this economic growth argument – is economic growth necessarily a good thing, do property rights actually incentivise innovation, do more goods always mean economic growth or does it depend on the type of good etc. The argument at its most simple is economic growth is morally good, and that if you want economic growth, you need property rights.
113 Milton Friedman (Friedman, 1970), for example, presents an extreme end of this view.
3.3.2 Labour Investment And Historical Entitlement: John Locke And Robert Nozick

Instead of justifying ownership in increased social good, an alternate justification is found in the individual. Perhaps the most discussed account is Locke’s labour investment theory,\footnote{Labour investment, though perhaps the most common way to read Locke, is not the only way to understand his account. For instance, Peter Drahos holds that “Locke, and the natural law tradition of which he was a part, remind us that the choices over property forms are choices about the nature of community” (Drahos, 1996, p. 68). On this account of Locke, in a negative commons all things are “open to anybody to make the subject of exclusive belonging”, whereas in a positive commons all thing are jointly, rather than individually owned (Drahos, 1996, p. 57). So, if Locke had in mind a positive communal space, then things could be owned by labour, but jointly.} presented most clearly in §27 of book two of his *Two Treatises Of Government*:

> Though the earth, and all inferior Creatures, be common to all Men, yet every Man has a *Property* in his own *Person*: this no Body has any right to but himself. The *labour* of his body, and the *Work* of his hands, we may say, are properly his. Whatasoever then he removes out of the State that Nature hath provided, and left it in, he hath mixed his *Labour* with, and joyned to it something that is his own, and thereby makes it his *Property*. It being by him removed from the common state Nature hath placed it in, it hath by this *labour* something annexed to it, that excludes the common right of other Men: for this *Labour* being the unquestionable Property of the Labourer, no man but he can have a right to what that is once joined to, at least where there is enough, and as good, left in common for others (Emphases Original, Locke and Laslett, 1963, pp. 328-329).

Locke’s idea is that people have ownership over themselves. When they work on something, they invest themselves in this thing so become mixed with it. By extension, they come to own the thing worked on. For example, consider Louise. She has now dug the ground, planted seeds, watered and harvested grapes. By investing her labour in these grapes, she mixes some part of her person with the grapes. She has ownership over her person so gains property rights in the fruits of her labour, in this case, grapes.

While much can be discussed about Locke’s account,\footnote{Waldron’s *The Right To Private Property*, especially chapters six and seven, present a thorough examination of Locke’s theory. Waldron discusses Locke within the historical and religious context that Locke was writing in (Waldron, 1988).} two important things to note are that the rights generated from the labour are *special or contingent* rights and not *general* rights. Secondly, these rights must be understood in the larger context of Locke’s work – in particular ownership’s lexical inferiority to a general right to subsistence. On the first point, the generation of *special* rights as opposed to *general* rights, the investment of labour means that Louise gains ownership over the grapes as a
result of her activity on the given grapes. Waldron describes special rights as those rights that “we have because of what has happened – because of the occurrence of some events, apart from which, we would not have the rights in question” (Waldron, 1988, p. 109). Louise’s ownership of the grapes “arises out of a particular contingent event in which [she] was involved – namely the event of [her] labouring on the field” (Emphasis Mine, Waldron, 1988, p. 108). The special right is contingent upon a particular event – labour, which separates Louise from other people. Sean, has not laboured in the field, so has no such right. While both might have an interest in the section of land that has produced the grapes, “the interest itself is not sufficient to count as a right; that is, it is not sufficient by itself to generate duties of exclusion on others” (Waldron, 1988, p. 111). Contrasting special rights, general rights are not dependent upon a special set of circumstances, “but attributes the [moral importance of the right] to the interest itself, in virtue of its qualitative character” (Waldron, 1988, p. 116). This distinction is relevant because the labour investment theory generates only special rights; only those who labour have a right to property, “there is nothing in Locke to support the proposition that private property is something which all persons have a general right to; his position is that provided each person’s subsistence is taken care of there is no cause for moral concern if anybody happens not to have acquired any resources as his own private property” (Waldron, 1988, p. 139).

This reference to subsistence brings us to the second point, the need to understand labour investment theory within the context of Locke’s work. Waldron argues that an understanding of Locke’s work prioritises the right to survival above the right to property (Waldron, 1988, pp. 137-252). The relevance comes from considering libertarians who strongly emphasise a property rights position. Will Kymlicka describes this position where property rights trump survival rights: “[n]o one has the right to take [resources] from me, even if it is to keep the disabled from starving” (Kymlicka, 2002, p. 104). A system of strong individual property rights means that Louise owns her plot of land and all the food stuffs that it generates. Further, she has no moral obligation to feed Sean, even if Sean is starving. If Sean is starving and steals Louise’s food, even

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116 Note that Waldron follows the distinction between special and general rights developed in H. L. A. Hart’s Are There Any Natural Rights, (Waldron, 1988, pp. 106-109).

117 As I understand Waldron’s take on Locke, property rights expressed in Kantian terms would be perfect but non-universal as the owner is specified in contrast to all others as non-owners, but the rights are only generated by the owner’s labour (Griffin, 2008, p. 96).

118 This strong position described by Kymlicka could be associated most clearly with Robert Nozick. However, to be charitable to Nozick, he does not explicitly say that people should starve. Perhaps where his account is most similar to that described by Kymlicka is in a footnote in Anarchy State And Utopia.
if it is for his survival, he commits a serious wrong against Louise. His action is impermissible, and the state ought to intervene on Louise’s behalf.

Yet according to Waldron, on a complete Lockean account, the special rights to property “are themselves constrained by a deep and, in the last resort, more powerful general right which each man has to the material necessities for his survival” (Emphasis Original, Waldron, 1988, p. 139). In §42 of the First Treatise, Locke states:

[W]e know God hath not left one Man so to the Mercy of another, that he may starve him if he please... therefore nor Man could ever have a just Power over the life of another...As Justice gives for every Man a Title to the product of his honest Industry, and the fair Acquisition of his Ancestors descended to him; so Charity gives every Man a Title to so much out of another’s Plenty, as will keep him from extream want, where he has no means to subsist otherwise” (Emphases Original, Locke and Laslett, 1963, pp. 205-206).

So, on a full Lockean account, property rights are trumped by a general right to survival.\footnote{§3.5 and §7.4.2 show that this constraint imposed by survival on what a Lockean system of property rights has important ramifications for the ownership of personal information.}

Under Locke’s theory, the ‘mixing’ of one’s labour with material objects presumes a directionality of ownership. We gain ownership over the new thing, rather than simply losing our labour. However, Nozick asks:

Why isn’t mixing what I own with what I don’t a way of losing what I own rather than a way of gaining what I don’t? If I own a can of tomato juice and spill it in the sea so that its molecules...mingle evenly throughout the sea, do I thereby come to own the sea, or have I foolishly dissipated my tomato juice? (Nozick, 1974, pp. 174-175).

For Nozick, this presents a challenge to standard Lockean property rights. Instead, he offers a different interpretation of property rights generated from the Lockean proviso to leave “enough, and as good, left in common for others” (Locke and Laslett, 1963, p. 329). Nozick states “[t]he crucial point is whether appropriation of an unowned object worsens the situation of others” (Nozick, 1974, p. 175). On Nozick’s account, justice in holdings is ‘exhaustively covered’ by three steps:

1. A person who acquires a holding in accordance with the principle of justice in acquisition is entitled to that holding.
2. A person who acquires a holding in accordance with the principle of justice in transfer, from someone else entitled to the holding, is entitled to the holding.
3. No one is entitled to a holding except by (repeated) applications of 1 and 2 (Nozick, 1974, p. 151).

\footnote{where Nozick states “a right to life is not a right to whatever one needs to live; other people may have rights over these other things...one first needs a theory of property rights before one can apply any supposed right to life” (Emphasis Original, Nozick, 1974, p. 179). The account presented in Anarchy, State And Utopia holds that property rights are more important than a right to remain alive.}
These three features are central to Nozick’s account: “[A] principle of (initial) acquisition, a principle of transfer, and a principle of rectification. Its central tenet is that any configuration of holdings that results from the legitimate transfer of legitimately acquired holdings is itself just” (Scanlon, 1976, pp. 4-5).

Thomas Scanlon notes that Nozick’s account offers no more than a “skeletal framework of rights derived from Locke” (Scanlon, 1976, p. 4). Surprisingly, Nozick offers no explanation for the original acquisition. The most he says is “[w]e shall refer to the complicated truth about this topic, which we shall not formulate here, as the principle of justice in acquisition” (Nozick, 1974, p. 150). This lack of justification of initial acquisition is troubling, as it is central to Nozick’s project and justifies entitlement and a right of transfer. Waldron states that Nozick’s Principle of Just Transfer “operates on material provided in the first instance by the [Principle of Just Acquisition]”, yet “Nozick does not tell us what his favoured [Principle of Just Acquisition] is” (Waldron, 1988, p. 257).

Perhaps the reason for the lack of elaboration of any principle of just acquisition in Nozick stems from a fundamental problem within Locke’s own justification of property rights. Locke’s justification was built from the premise that one gains ownership over the thing laboured on by mixing one’s labour. “The idea that labour is literally mixed with an object is crucial to this argument. Without it we cannot explain how the force of the labour entitlement is transferred to the product of one’s labour” (Emphasis Original, Waldron, 1988, p. 184). Locke’s justification stands on two things, self-ownership, and the extension of that self ownership into other things via the mixing of labour (Waldron, 1988, p. 177). Waldron argues that labour is an action, not a thing, and one cannot own an action which leads him to say that the notion “that the object thereby comes to contain something the labourer owns – is left completely mysterious” (Waldron, 1988, p. 185). Waldron concludes that Locke’s labour investment theory, “the best known [special rights] based theory fails to provide an adequate defence of private property” (Waldron, 1988, p. 252).

So, a Lockean account of property rights like that described by Nozick fails as it offers no justification of initial acquisition. Locke’s own account fails as it cannot explicate what is central his Locke’s justification, mixing labour with an object. While somewhat involved, recognition of the justifications and their weaknesses are important

Thomas Nagel states that Nozick’s book, “[d]espite its ingenuity of detail…is entirely unsuccessful as an attempt to convince, and far less successful than it might be as an attempt to explain to someone who does not hold the position why anyone else does hold it” (Nagel, 1975, p. 137).
for two reasons. Firstly, social good and labour investment are the most common justifications offered for ownership claims, so there is a burden of argument for another system to show why these justifications fail. The alternate justification explored in §3.3.3 begins to link identity and information, so is central to this thesis. Secondly, giving a detailed exposition of the different moral foundations permits us to see when property claims over personal information are justified.

3.3.3 Psychological Individuation And Identity: Georg Hegel

Georg Hegel\textsuperscript{121} offers an account for natural property rights, justified by people’s need for psychological individuation.\textsuperscript{122} However, what does this actually mean, and how does it justify property? On individuation, Hegel argues that a person can only develop their personality, or individuate, through an expression of their will. We are born with a mind that is free and infinite: “There is no external limit to the range of the mind’s capacity; there is nothing which it cannot know” (Reyburn, 1921, pp. 77-78).

However, if we were to leave the mind at that, we would be empty: the mind needs the external world to give it substance. “Mind obtains its substance from the outer world; the details of its contents have been found [by the mind] and can all be traced to ‘natural’ sources...By apprehending the object, and taking it as content, mind articulates and determines itself.” (Reyburn, 1921, p. 84). For Waldron, this means that “[f]ree will must proceed out of its initial embodiment in [the subject] into the external world where a genuinely universal embodiment can be established” (Waldron, 1988, p. 354). This expression of the will in the world is a dynamic interaction, where the mind and the world show themselves “not only opposed to but identical with its opposite” (Taylor, 1978, p. 15).

\textsuperscript{121} Given the range of subjects that Hegel covered in his writings, and breadth and depth of Hegel scholarship, I cannot do justice to his ideas here. Most of the relevant material is taken from his \textit{Philosophy Of Right} with some supporting material from his \textit{Philosophy Of Mind} (Hegel, 1967; Hegel and Inwood, 2007). Secondary sources like Charles Taylor, Hugh Reyburn and Alan Patten are also helpful (Patten, 1999; Reyburn, 1921; Taylor, 1975, 1978). Amongst other places, this account of Hegelian property rights is spelled out in detail in chapter Four of Drahos’ \textit{A Philosophy Of Intellectual Property}, by Margaret Radin in \textit{Property And Personhood} and Waldron in chapter Ten of \textit{The Right To Private Property} (Drahos, 1996; Radin, 1981; Waldron, 1988).

\textsuperscript{122} Some may disagree that psychological individuation is an accurate description: “[a]lthough [Hegel’s account] resembles a psychological account of personality and property, it is closer to a teaching of an understanding of property and personality” (Drahos, 1996, p. 78). However note that Hegel states that “[b]y resolving itself, the will posits itself as the will of a specific individual and as a will \textit{separating itself off against another individual} (Emphasis Mine, Hegel, 1967 §13, p. 26). So, on this, it seems fair to describe Hegel’s approach as one of psychological individuation. Either way, the major point of relevance of Hegel to this thesis is the relations he establishes between identity and information.

\textsuperscript{123} Note that in contrast to Locke’s system where labour investment generates a special or contingent right, psychological individuation is a general right, possessed by all people.
Hegel’s writing is often dense and obscure: the “mind has emerged as the Idea that has reached its being-for-self. The object of the Idea as well as the subject is the concept. This identity is absolute negativity...this externalization of the concept has been sublated and the concept has, in this externalization, become identical with itself” (Emphases Original, Hegel and Inwood, 2007 §381, p. 9). This is a dialectic model where things become themselves through their opposite. Stepping past the complexities in Hegel’s language, the basic point is that in exercising its capacity to will, the mind individuates itself. By expressing itself in the world, the mind externalises itself, and so the mind becomes substantiated. The elements of this relationship – in this case, the mind and the external world – interact with each other and mutually influence each other.

The first stage of becoming a person occurs when the individual’s will is externalised by its embodiment. In this early step, the agent’s mind acts within and upon the agent’s own body. “[B]eyond the hierarchy of forms of life, there is a hierarchy of modes of thought. As man’s rational conscious of himself grows, so his mode of expression of this self-consciousness must also alter” (Taylor, 1978, p. 20). Waldron claims that “the first step in this process of externalization is the establishment of the bare principle of [the agent’s] personality in the public world of material objects” (Waldron, 1988, pp. 355 - 356). However, Waldron has missed, or at least obscured, a vital step. The first step of embodiment is the expression of the will in the agent’s own body. For the will to develop, it must first come to grips with embodiment, through its body.

Consider that in human development, infants develop an understanding of their physical body through movements that correspond with the way organs and sensory inputs relate to each other. This is a process called ‘body babbling.’ “In body babbling, infants move their limbs and facial organs in repetitive body play...What is acquired through body babbling is a mapping between movements and the organ-relation end states that are attained. By organ-relation end states...we mean [the] relation between organs” (Meltzoff and Moore, 1997, p. 184). Body babbling helps a developing infant learn to understand that it is an individual. The infant exerts its will, the infant’s body

124 While obscure, this revealing of the self through the other can be summarised as follows: Hegel’s dialectic of identity “presents us with something which cannot be grasped in...a series of propositions which [do] not violate the principle of non-contradiction...[i.e.] A is A, that A is also ¬A; and that ¬A shows itself to be after all A” (Taylor, 1978, p. 15).

125 Chapter 6 presents the argument that identity and personal information are in a ‘dyadic’ relationship, built around a process of continuous reciprocal causation.
responds, and multiple sensory feedback mechanisms alert the infant that the body has responded to the expression of the will. While there is an issue of mental causation in explaining how the will actually expresses itself in the body, most people would likely concede that an agent’s will manifests itself in their body.

Bringing the discussion back to Hegel, personal development requires exercise of the will in the world, via embodiment. Our will is infinite, but through the will’s expression in the world, our personality begins to develop.

§5 – The will contains (α) the element of pure indeterminacy or that pure reflection of the ego into itself...This is the unrestricted infinity of absolute abstraction or universality, the pure thought of oneself.
§6 – (β) At the same time, the ego is also the transition from undifferentiated indeterminacy to the differentiation, determination and positing of a determinacy as a content and object...Through this positing of itself as something determinate, the ego steps in principle into determinate existence (Hegel, 1967, pp. 21 - 22).

According to Waldron, this embodiment of the will in the body and in things in the world, is not a mere a capacity for agents, but a fundamental psychological need: Agents “need to be able to ‘embody’ the freedom of their personalities in external objects so that their conceptions of themselves as persons cease to be purely subjective and become concrete and recognizable to themselves and others in a public and external world” (Waldron, 1988, p. 353). Hegel makes this need of the will to express itself beyond the boundaries of the body an absolute natural right: “A person has as his substantive end the right of putting his will into any and every thing and thereby making it his, because it has no such end in itself and derives its destiny and soul from his will. This is the absolute right of appropriation which man has over all ‘things’” (Emphasis Mine, Hegel, 1967 §44, p. 52).

Combining this capacity of things to express a person’s will, coupled with the absolute right of appropriation, we come to have property rights in external things:

Since my will, as the will of a person...becomes objective to me in property, property acquires the character of private property; and common property of such a nature that it may be owned by separate persons acquires the character of

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126 For more on the biological development of infants, the will and consciousness see (Butterworth, 1982; Thelen and Smith, 1994).
127 Mental causation, the problem of how the mind as a spiritual thing can interact with the body, which is a material thing, is another massive area in philosophy that can’t be covered here. For an introductory overview, see the entry in the Stanford Encyclopedia Of Philosophy on Mental Causation (Robb and Heil, 2009).
128 As an aside, note that things without an expressed will can receive an agent’s will, however things and especially people, which have a will expressed of their own, cannot take in a new will without some diminution of their own will. Taking human slavery for example, this diminution of one’s will by another is a grave moral injustice (Waldron, 1988, pp. 357-358).
an inherently dissoluble partnership in which the retention of my share is explicitly a matter of my arbitrary preference (Hegel, 1967 §46, p. 42).

Summarising Hegel’s account, a person’s will is expressed through things, and as a person has the natural right to their ‘private personality’ and to their ‘self-consciousness,’ this right extends to those things that their will has occupied.

This may seem an equivalent justification as Locke’s labour mixing. While the descriptions are certainly similar, they differ in their mechanisms. Recall that in labour investment, Locke relied on the actual mixing of labour with a given thing. Hegel’s account differs in that it is not the mixing of labour with external things that grants ownership to the labourer, but an expression of an agent’s will in the external thing. A response to this could be ‘if Locke’s account failed, as it relied on a strange mixing of labour, how could Hegel’s account succeed, where it relies on a similarly ‘spooky’ embodiment of the will in external things?’ This is clearly a fair argument; however, note that the process is referred to as being an expression of the will in external things, rather than an actual embodiment of the will in the external thing.

To explain, assume that people have a will, which they can express through their body. Problems of mental causation aside, if the will can express itself in a physical entity like the agent’s body, it seems to follow that the will can also express itself in physical objects beyond the boundary of the body. Importantly, I am not saying that the object actually takes on the agent’s will, there is no ‘spooky’ transference of will into the object. Instead there is an expression of the agent’s will in (or through)\(^\text{129}\) the object: The argument is not that there is embodiment of a person’s will in something external, but that others can recognise the person’s will through its expression in external things. If Fred watches Georgie walk to a window and open it with her arms, it does not seem odd or spooky for Fred to say that Georgie willed the window to be open, and her physical actions expressed this will.\(^\text{130}\)

Importantly, for legitimate property claims, there must be some relation between the will and the object, “[t]here has to be some physical relation between the body inhabited by the will in question and the external object in which that will is to be embodied” (Waldron, 1988, p. 363). Returning to the relation between the will and the

\(^{129}\) ‘In or through’ is used here as, depending on the form of expression and the type of object, some expressions may be said to be in the object, while some will be through the object. For instance, one could argue that an artist’s will is expressed in a painting, while the artist’s will was expressed through the act of painting. To say more on this issue is beyond this thesis, as the point being made is about the object and its relation to the expression of will.

\(^{130}\) This attribution of beliefs and desires to other agents relies on a folk psychological explanation of behaviour, is discussed in §4.5.3.
world, the will acts upon the world, and in doing so, the world gives substance to the will. “My will is reflected in the object inasmuch as there is this dual line of effect from my will to the object and back to my will” (Emphasis Mine, Waldron, 1988, p. 370). If we consider a chair that I have built, “the embodiment involves something like a conjunction of two relations between my will and the chair. There is (1) the relation constituted by my having built the chair and (2) the relation constituted by my being in a position to use or modify the chair” (Emphasis Original, Waldron, 1988, p. 369). What Waldron sees in Hegel is a reflection between the will and the object, a relation of mutual causality\(^\text{131}\) between the will and the external world. The object of the will’s embodiment is the ‘nexus’ of this relation (Waldron, 1988, p. 370).

An important point to draw from this discussion of relations is the role that alienation plays in the development of personality. Alienation occurs when one part of this will/world relation is broken. “Now to alienate an object is to terminate one relation of this pair, and thus to withdraw from the object this status as a nexus of relations” (Waldron, 1988, p. 370). So, if a relation between the will and that thing expressed in the world is broken, the person is alienated from that thing. As §3.5 argues, this has ethical ramifications, as if the relations between the will and the expression of the will in the world are relations that can’t be broken, there is an active interference in the person’s will.

Allen Patten has a different interpretation of Hegel, where he stresses the importance of the agent’s public recognition of their capacity to act upon the world (Patten, 1999, pp. 148-162). Patten argues that this capacity manifests itself not just as self recognition of agency (Patten, 1999, p. 148), but also recognition by others that they are an agent (Patten, 1999, pp. 157 - 161), with Patten ultimately concluding that a “social world that lacks the institution of private property could not be one in which individual personality is able to develop and flourish, because it could not be a community of mutual recognition” (Patten, 1999, p. 161). A person expresses their will, and it becomes known to others. Insofar as people deserve respect,\(^\text{132}\) property is a system by which society respects people by recognising their will. Hegel states: “[m]y individual right, whose embodiment has hitherto been immediate and abstract, now similarly becomes embodied in the existent will and knowledge of everyone, in the

\(^{131}\) Mutually causal relations are discussed in §6.4. To summarise, they are relations in which two things mutually impact each other.

\(^{132}\) Recognition and respect are discussed in §7.4.3.
sense that it becomes recognized” (Hegel, 1967 §217, p. 139). On Patten’s description of Hegel, property is a necessary element for recognition as an agent.

In summary, this section started with the idea of property, and looked at three different justifications for property rights; social good, labour investment and psychological individuation. While the social good arguments were internally sound, they had the possible limitation of not ensuring that the property rights could be maintained in the face of greater social good: ownership is lexically inferior to the greater social good. Locke’s labour investment theory seemed promising, but ultimately lacked a clear mechanism to justify why something like first occupancy could be sustained. Hegel’s psychological individuation, however, develops an argument in support of a general and non-contingent right to private property. It is general and non-contingent because, following Waldron, “property is something which it is important for every individual to have, so that there is a basis for overriding ethical concern if some people are left poor and propertyless” (Emphasis Original, Waldron, 1988, p. 342). That is, if one takes the Hegelian system seriously, all people have a property claim in things that are necessary for individuation, those things central to self-development.

3.4 Intellectual Property: Owning The Intangible

We have so far looked at owning tangible things. This section looks at ownership of the intangible – intellectual property. To describe intellectual property, let’s revisit Louise. She has grapes in abundance. In fact, she has too many grapes; each year many rot on the vine. Sharron, Louise’s enterprising neighbour, has developed a way of preserving grapes by crushing them, collecting the liquid and storing it in large watertight barrels. Having spoken with Sharron and tired of losing all her uneaten grapes, Louise decides to follow Sharron’s method. A few months later, Louise tastes this liquid, finds that it is extremely tasty. She tells people in the village and within days is selling her product to villagers. Sharron realises that Louise is likely to make large amounts of money and becomes annoyed. She tells Louise that it was her idea, so considers that she is entitled to some of the money that Louise is making. ‘Why’, asks Louise, ‘it was my effort that grew the grapes and that made the juice. It is mine. You did nothing to make this wine’. Sharron looks at Louise with surprise ‘Nothing? It was my idea to do this. Without my idea you would have nothing. Given that I first expressed this idea, I own it. Until you pay me what I deserve, I will appeal to the city council to stop you from making any more wine’. We now have Sharron claiming property rights over an idea, the intangible.
3.4.1 Intellectual Property Described

The products under discussion are not tangibles like grapes, nor products like wine. They are intangibles like ideas, ‘products of the mind’. Intellectual property allows things like songs, stories, movies, invention designs, genes (Drahos and Braithwaite, 2002) and perhaps even colours\(^{133}\) to be owned. How does this come about? Firstly, intellectual property relies on active institutional support of the claimant’s rights. Robert is likely to know if someone has taken his car without his consent. It is much harder for him to know if someone else is using his idea. Importantly it is even harder to stop them using his idea than his car: even when it is in public, he can lock his car to prevent someone taking it. How can he lock up an idea?\(^{134}\) The limit access to ideas, legal institutions are needed, so intellectual property typically refers to the institutional recognition of a creator’s rights.

These rights are controls over ideas and their expression.\(^{135}\) The two main forms\(^{136}\) of intellectual property protection are copyright and patents. Copyright relates to the expression of an idea, while patents relate to the idea itself. Consider Romeo And Juliet: the idea has two star-crossed lovers from different families whose life and love end tragically. Now, consider West Side Story: the idea has two star-crossed lovers from different families whose life and love end tragically. The idea between the two is the same (or at least, relevantly similar), but the expression differs: clearly Shakespeare’s story uses different language, different characters, and a different setting to those in West Side Story: The idea is expressed differently.

Compare copyright with patents: Patents grant the patent owner a monopolistic right of exclusion over an idea. A patent on a pharmaceutical, for example, can exclude non owners and/or non licensees from producing that pharmaceutical. As David Koepsell points out, the patent is a rights claim over the universal form of the item, a set of controls over the type, not the token (Koepsell, 2009, p. 10). One typical practical difference between patents and copyright is that copyright requires recognition of the original author, while a patent can prevent use of the idea:

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\(^{133}\) In a recent Australian example of owning a colour, a confectionary company attempted to prevent another confectionary company from using a shade of purple similar to their own (Gillies, 2009).

\(^{134}\) One way is to keep the idea private, like a trade secret. But if Robert wants to profit from his idea, then it would likely need to be in the public in some way. And if it is in the public, it is no longer secret.

\(^{135}\) Making a clear distinction between what counts as an idea and an expression is hard. However, I will use this distinction given that it is standard in discussions of intellectual property.

\(^{136}\) There are other forms of intellectual property, like design, trade secrets and plant breeder’s rights, but they are not particularly relevant to the current discussion.
Patents restrict the actual usage of an idea (in making a physical object), while copyrights restrict only copying an expression of an idea. One can freely use the ideas in a copyrighted book in one's own writing, provided one acknowledges their origin. One cannot freely use the ideas a patented invention represents when developing one's own product (Hettinger, 1989, p. 52).

For a patent to be valid, generally it must meet four criteria: accurate description of manufacture, novelty, inventiveness and utility (Ricketson and Richardson, 1998, p. 627). Importantly, this validation allows for the institutionally recognised owner to restrict other’s use of the idea. “The right to exclude can be a very significant...right, and may be sufficient to turn what, previously, would have been collective property into private property” (Lever, 2001). Institutional recognition of intellectual property, like in the Canavan’s and Catalona cases, represents a significant restriction on how people access and use personal information. It is therefore important to see how such property rights over the intangible are justified.

### 3.4.2 Intellectual Property Justified

If intellectual property is the institutionalised prevention of someone accessing or using an idea, we may ask: “Why should one person have the exclusive right to possess and use something which all people could possess and use concurrently?” (Hettinger, 1989, p. 35). Owning a Cadillac is very different from owning an idea: Only one person can use the Cadillac at one time while an idea can be used by many people at once (Drahos and Braithwaite, 2002, p. 26). The general position on copyright and patents develops a pluralism, balancing the interests of individual creators with society’s interests: a creator is encouraged to make their idea known to the public, and in return they get a monopoly over that idea or its expression for a limited period of time, at which point, the idea becomes open and free for all. “Our society gives its inventors and writers a legal right to exclude others from certain uses of their intellectual works in return for public disclosure of these works” (Hettinger, 1989, p. 36). This way, the copyright and

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137 ‘Generally’ is used here, as different legal jurisdictions will take different factors into account for assessing the validity of a patent application. For one detailed introduction to the history and requirements of valid patents within the Australian legal system, including many case examples, see (Ricketson and Richardson, 1998, pp. 543 - 767).

138 Copyright and patents differ in the length of exclusivity that they grant: Copyright is something in the vicinity of seventy years following the author’s death, while patents are fourteen to twenty one years following invention or application submission, depending on the jurisdiction. However, these time periods can change: the U.S. ‘Sonny Bono’ Copyright Term Extension Act of 1998, further extended the term length of copyright protection (Merges and Reynolds, 2000), and patent ‘evergreening’ allows for patents to be extended beyond their initial terms (Faunce and Lexchin, 2007). Some like Richard Posner argue that there are important economic benefits coming from long terms for intellectual property rights (Posner, 2005, pp. 58-62).
patent owners get to profit from the creation, and then the ideas enter the common pool of ideas to benefit society at large.

Similar to pluralistic approach to privacy advocated in Chapter Two, intellectual property is typically justified by four plural interacting values; social planning, economic/utilitarian, Lockean style labour investment and Hegelian personhood (Fitzgerald, 2003, p. 180). Given this pluralism of foundations, or perhaps despite it, economic/utilitarian justifications, or the social good, §3.3.1, often take precedence over other interests:

Arguably, the guiding premise of American copyright and patent law is the utilitarian ethic that legal protection of intellectual property (especially copyright and patent) is needed to advance public welfare because it fosters creative genius/product which can in turn be distributed for the good of the general public (Fitzgerald, 2003, p. 180). Further supporting this view, Edwin Hettinger states: “Natural rights to the fruits of one’s labor are not by themselves sufficient to justify copyrights, patents, and trade secrets, though they are relevant to the social decision to create and sustain intellectual property institutions” (Hettinger, 1989, p. 51). Justifying intellectual property in natural moral rights is hard.140 So hard that rather than saying that the inventor or creator has such natural rights (either by Lockean or Hegelian justification), the social good justification is typically used.

In the case of patents, this social good justification is expressed in the claim that intellectual property rights produce net benefits as they incentivise innovation (Pogge, 2008, p. 230). For instance, pharmaceuticals ostensibly141 help people live better lives and so increase the social good. However, pharmaceutical research and development is extremely expensive.142 Because of the massive cost and the high uncertainty of actually taking a candidate chemical all the way through to the market, people need economic

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139 To give an idea of this, social planning is given as a justification for intellectual property based on “reasons of cultural enhancement” (Fitzgerald, 2003, pp. 183 - 184). Similar to the economic/utilitarian justification, the idea of social planning is that by fostering a creator’s rights, we develop a rich informational and cultural landscape which is ultimately a good in itself. Given that much of the discussions about the justification of intellectual property is on utilitarian and natural rights, I do not talk about social planning.

140 For instance, Thomas Pogge writes: “The difficulties of defending (legal) intellectual property rights by appeal to (moral) natural rights are so overwhelming that most defenders of the ongoing intellectual property initiative appeal to the beneficial consequences of protecting property rights…such rights incentivize intellectual innovation, or so we are told” (Pogge, 2008, p. 230).

141 I say ostensibly here, as there are examples that pharmaceuticals do not necessarily improve people’s lives directly (Leucht, Corves et al., 2009; Tyrer and Kendall, 2009), and may in fact harm people (Wester, Jonsson et al., 2008).

142 Taking a candidate chemical through the clinical trials process to market release costs, on average, somewhere between US$802 million (DiMasi, Hansen et al., 2003) and US$862 million (Adams and Brantner, 2006).
incentives. Patents on pharmaceuticals incentivise innovation by granting a monopoly of the manufacture and distribution of the pharmaceutical. For a limited time, this allows the patent owner to charge what they see fit to make their money back. “The temporal limitation of patents and copyrights augments the public domain because once the patent or copyright expires, the patented or copyrighted work cannot be reappropriated; it is forever a part of the public domain” (Posner, 2005, p. 60).

Empirical questions aside, there is a deeper philosophic question to ask. We saw in the previous section three justifications for property rights; social good, labour investment and psychological individuation. How do these relate to intellectual property? If these are legitimate justifications, what does that mean for the claims made in favour of intellectual property institutions? Take social good, for example: If we couch social good in terms of utility, and if intellectual property regimes are detrimental to people’s well-being, then should intellectual property conventions remain? If utilitarian reasons are used to justify the moral claims on a patent, then this utilitarian reasoning can also limit patents, whether at a general or more specific level.

Maybe natural rights present more useful justifications for intellectual property. Yet, recalling the previous section’s discussion, labour investment alone does not offer a stable foundation for property. Following Justin Hughes, if Locke’s view is to be used, it needs to be combined with Hegel’s (Hughes, 1988, p. 329). From Hegel, we justify an owner’s claims by reference to psychological individuation, where the creator’s will is made substantial through its expression (Waldron, 1988, pp. 369-370), or on the need for social recognition (Patten, 1999, pp. 157-161). Hegel, perhaps in conjunction with Locke, can justify natural rights for a creator. However, justifying intellectual property in natural rights mean that other individual needs trump intellectual property: Recall that in Locke’s system, subsistence trumps property rights, §3.3.2. Similarly, “Hegel does not believe that property rights are absolute anyway against the demands that might arise out of higher stages of ethical development” (Waldron, 1988, p. 387).

While the economic return is the standard incentive given, history shows us that economic incentives aren’t the only things that would motivate medical innovations. The polio vaccine, for example, was produced without the promise of a large economic return (Johnston and Wasunna, 2007).

Whether this works in principle is a contested point. Thomas Pogge, for example, argues that patents on pharmaceuticals create a great deal of harm, in part because patents prevent cheap generic pharmaceuticals from being offered to the poor. See (Pogge, 2008, pp. 231-232; Selgelid and Sepers, 2006, pp. 153 - 163).

For examples, see: (Drahos and Braithwaite, 2002, pp. 150-186; Pogge, 2008, pp. 222-261).

A standard response by advocates of intellectual property rights is that without patents there would be no innovation. However, this was not historically the case (Johnston and Wasunna, 2007), and as Pogge points out, there may be alternative forms of incentivisation (Pogge, 2005a, 2005b; Pogge, 2008, pp. 230-261).
Staying alive is a necessity for higher ethical development so it would trump a patent holder’s rights.

A further point is that a strong Hegelian or Lockean natural rights justification does not seem forthcoming in many claims of intellectual property. Drahos and Braithwaite argue that the original creator is often not the owner of the patent or copyright (Drahos and Braithwaite, 2002, pp. 48, 166, 176). So, on this, it would seem that the Hegelian justification is weakened, as it was based in the development of self by reflection and recognition of that will’s expression.\(^{147}\) If the owner is no longer the creator, then the owner does not have that strong connection via psychological individuation. Note also that for a single patent or copyright claim there are likely to be many contributors: who amongst these is identifiable as the owner in a Hegelian sense? Second to this, “ideas have fuzzy boundaries” (Drahos and Braithwaite, 2002, p. 26): we may not even be able to properly identify the thing owned. Like Nozick’s tomato juice in the ocean, how do we actually identify the boundaries of a given idea, such that we can see it in relation to Hegel’s need for individuation or social recognition of the will? Finally, perhaps, with the four foundational values of intellectual property (Fitzgerald, 2003, p. 180), there is a pluralism between them, where no single value trumps the others. Balancing or trading off between foundational principles would likely mean that intellectual property rights themselves are not trumps; intellectual property claims need to be considered alongside other values.

The key point is that, on any justification, intellectual property rights are not absolute. Either they are contingent and become subsumed under the social good, or are non-absolute claims, so in particular situations get outweighed or traded off against other rights, interests or values. Further, as we have seen, in order to get a proper justification for a property claim over an intangible like personal information, we need to see who has the strongest connection to that information and who is impacted most by its use and exclusivity.

3.5 Personal Information And Property
What does this discussion of ownership have to do with the convergent technologies introduced in Chapter One? Given that personal information is intangible, the justifications discussed will help us identify who has a moral claim to the personal information. This section briefly looks at the concept of personal information, and

\(^{147}\) §3.5 develops this idea.
presents a way of understanding personal information such that we can make sense of moral claims of ownership over personal information. To begin, information is stipulated as a data set that is well ordered, meaningful and judged to be true.\textsuperscript{148} Personal information I stipulate as ‘information that relates to a person or group of people\textsuperscript{149} in some way, where ‘relate’ means that there is some relation between a person and some information’.\textsuperscript{150} Under this description, what counts as personal information? Any set of facts about a person – their name, age, birth date, hair-colour. Note that this set of facts can be as broad or specific as one wants – it could potentially include something as general as the fact that a person is a human, or could be something so specific as an individual’s epigenetic profile at death.\textsuperscript{151}

To anticipate the conclusion, in line with the pluralism of ownership justifications, personal information which is morally relevant\textsuperscript{152} is information that either (a) was derived from their labour via Locke, (b) is an expression of their will, from Hegel, and/or (c) has some substantial impact on the person’s wellbeing, so ultimately maximises social good. In short, a property claim over information is most strongly justified by the person that is strongly tied to that information and/or the person that is most vulnerable to uses of that information.

This means that if we want to identify justified claims of ownership over personal information, we must seek to identify who is most strongly identified with that information and whose welfare will be most affected by that information. On the point of information and welfare, this is a claim built around the social good justification for ownership discussed in §3.3 and §3.4: Personal information can be used to increase pleasure or suffering,\textsuperscript{153} either in individuals or generally. The social good justifications

\textsuperscript{148} This general description of information is taken from Luciano Floridi’s general definition of information, discussed in detail in Chapter Five.
\textsuperscript{149} For the ease of use, I will simply refer to a single person unless otherwise stated. However, all that is said about an individual person here is applicable to groups of people.
\textsuperscript{150} This description of personal information is explained in §7.2.
\textsuperscript{151} Epigenetics is the investigation “of changes to gene expression caused by chemical modification of DNA and its associated proteins [which] could explain much about how... similar genetic codes are expressed uniquely in different cells, in different environmental conditions and at different times (Editorial, 2010, p. 587). This would be a totally unique set of information about a person as it would be not only be their unique genetic sequence, but would also include the set data about the tertiary and quaternary DNA structure that the DNA set has a result of environmental factors that person had been exposed to throughout their life.
\textsuperscript{152} As a way of focussing upon important personal information, and what it relevant to this thesis is the need to consider morally relevant personal information. Obviously though, reference to morally relevant personal information is vacuous unless there is a way to determine which personal information is morally important, and why it should be considered morally relevant. Chapters Six and Seven are focussed on these problems.
\textsuperscript{153} §7.5 is a taxonomy and set of descriptions of different types of informational harms.
for ownership can be cashed out in at least three different ways. Firstly, to see if personal information should be owned at all. Secondly, to determine if particular sets of personal information should be owned. Finally, to identify whether a particular person or people have a justified claim of ownership over a particular set of personal information. The first question is largely an empiric matter that cannot be answered here: to determine whether a general system of ownership over personal information increases or decreases the social good is dependent, in part at least, on whether it actually promotes or reduces the social good.

The second question, should particular sets of personal information be owned, has a number of different perturbations. For instance, some personal information like a genetic database might best promote social good if the information it contains has no owner and is available and accessible to all interested parties, while a forensic DNA database might best serve the social good if access is strictly controlled by an independent arm of the respective government. In contrast, private ownership may incentivise parties to develop socially beneficial uses for aggregated personal information (Posner, 2005, pp. 66-69). A counter-argument to this is that private property will not incentivise innovation but instead raise costs for access to the personal information, resulting in lesser social good overall and/or greater social harms overall.

The third question to answer is whether a particular person or group have justified ownership claims, based on the social good produced by owning a particular set of information. For instance, consider a company having a patent on a genetic sequence useful to screen for the probability of cancer. The company may be able to claim that their ownership of the given set of personal information maximises the social good by providing an important service. However, contrasting this is the argument that

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154 ‘In part’ is given here, as there is a harder issue within normative ethics of what counts as social good – is it just maximising welfare as utilitarians would argue, or are there other factors that need to be included? Even on a utilitarian welfare maximisation calculus, we confront problems whether we should be maximising mind states or world states, and whether we need to look at individual well-being or take the total wellbeing view (Kagan, 1998a, pp. 29-48). These particularly hard issues of what counts as social good are beyond the scope of this thesis to look at in detail. Perhaps the modern classic text on this is Parfit’s Reasons And Persons (Parfit, 1987). A more general set of discussions around utilitarianism be found in (Glover, 1990).

155 For instance, the U.S. Combined DNA Index System Forensic DNA database CODIS could be an example of the second kind http://www.fbi.gov/about-us/lab/codis. Further discussion of biobanks is given in Harnessing The Benefits Of Biobanks (Andrews, 2005).

156 Recalling the UK’s Open Health/Open Governance program from §1.1, one of the motivations was to incentivise private innovation.

157 See arguments raised by Drahos and Braithwaite, Pogge and Selgelid and Sepers, amongst others (Drahos and Braithwaite, 2002; Pogge, 2008; Selgelid and Sepers, 2006).
a company’s claims are not justified, as ownership of the cancer gene reduces general access, ultimately increasing overall harms.

This brief discussion of different social good justifications confirms two things. To make any clear decision on ownership of particular sets of personal information based on the social good, a great deal of particular information is needed – we need to know the personal information set in question, the claimants and counter-claimants, the expected benefits and harms of recognising/not recognising ownership, and any further empirical evidence to justify or challenge the respective claims. Secondly, to make a sensible claim of ownership of personal information, the information needs to be seen in aggregate: many of the harms and benefits of applications of personal information can only be recognised and understood when the information is aggregated, a point raised in §1.3, and discussed in detail in §7.5. In short, we can only properly understand justifications from social good if we see the information in aggregate.

On natural rights justifications, both Locke and Hegel’s justifications are relevant to personal information. Given that Hegel’s justifications were deemed stronger than Locke’s, Hegel is the focus here. The same general conclusions should hold for labour investment.

Consider again the fundamental importance of personality to the Hegelian justification of ownership:

[T]hose goods, or rather substantive characteristics which constitute my own private personality and the universal essence of my self-consciousness are inalienable and my right to them is imprescriptible. Such characteristics are my personality as such, my universal freedom of will, my ethical life, my religion (Hegel, 1967 §66, pp. 52-53).

Such a justification is complementary with the personhood and intimacy justifications for privacy, discussed in §2.3.1 and §2.3.2, respectively. Firstly, Hegel’s inalienable link between a person’s ‘universal essence of self-consciousness’ tracks to personhood. Secondly, some things are fundamentally important to a person. Recalling §2.3.2, intimacy was an attitudinal state towards things that a person likes loves or cares about. Hegel’s description of the importance of the relations between a person and characteristics central to them explicates the arguments about personhood and intimacy.

To legitimately claim that personal information is central to a system of psychological individuation, two further steps are needed. Firstly, the particular mechanism or mechanisms that relate personal information to personality must be developed. To explore and elucidate such a mechanism is the purpose of Chapters Four – Six of this thesis. Secondly, central to this mechanism, we need a way to identify the
‘substantive characteristics which constitute my own private personality.’ On this point, consider Waldron’s description of Hegel’s system: “A person’s will is embodied in an object to the extent that (1) his will has made a difference to the object and (2) the object, affected in this way by his will, itself makes a difference in turn to his willing” (Waldron, 1988, p. 370). Waldron’s account is focussed upon tangibles, as indicated by his reference to the ‘object’. Instead, what we are considering here are a particular class of intangibles, personal information. The upshot of this is that, from §3.3.3, we are not speaking of embodiment of the person’s will, but an expression of their will. Here, we are concerned with the expression manifested as information about that person. This is the Hegelian ‘will’, which is made substantial through expression first in the agent’s body and then in the world. Facts about a given person are expressions of that person as ‘an agent with will’, and are independent of whether that person willed those facts to come about.

Waldron’s discussion of the will and object outlines a dyadic relationship. A dyadic relationship is one where two things have the capacity to mutually influence each other. From Hegel, the will affects the world and world affects the will. This was not simply a fact about agency, but the essence of freedom. Recall from Patten’s analysis of Hegel the importance of social recognition of property rights (Patten, 1999). This social recognition becomes especially important when considering intangibles like personal information. Whether it is the recognition that a relation between personality and the world or the particular value that a particular society places on a set of personal information, the relation between ‘my own private personality’ and its ‘substantive characteristics’ is something fundamental both to the wellbeing of people and peoples, and to recognition of basic rights of a person or people, points elaborated in §7.4.

Finally, note that Waldron’s interpretation of Hegel is dynamic. The relation between the will and the world is responsive to the extent that the will and its expression in the world are related. This substantiates a conclusion of §2.5 that suggested privacy claims were given an importance to the extent that a person stood in an intimate relation with personal information, and/or to the extent that a set of

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158 Dyadic relationships are discussed in §6.4. A point to note is that I have chosen the term ‘dyadic relationship’, rather than calling this a dialectic relationship. The reason for this is that the Hegelian dialectic is a particular concept taken from Hegel’s philosophy, and carries with it particular philosophical assumptions, positions and discussions which are beyond the scope of this thesis. I use the term dyadic relationship to be a concept similar to the Hegelian dialectic, but without the baggage. For more on Hegel’s Dialectic, see (Bencivenga, 2000; Pinkard, 1988; Rosen, 1982).
information could impact on them. Likewise, and paraphrasing Waldron,\textsuperscript{159} in a psychological individuation system of ownership, a person’s claims over personal information will be recognised ‘to the extent that (1) his will has made a difference to the personal information and (2) the personal information, affected in this way by his will, itself makes a difference in turn to his willing’. The more a particular person or people’s development of personality is involved in the development of a set of personal information \textit{and} the way in which a person or people are affected by a set of personal information, the greater their claims of ownership over that set of personal information. In order to use this rule of thumb to an ownership (or indeed a privacy) claim, one needs to identify the set of personal information, identify the people from whom the information was derived and to whom the information relates. The more intimate that relation, the greater the importance of the need to recognise the ownership claims.

This becomes especially important when considering personal information as: “substantive characteristics which constitute my own private personality and the universal essence of my self-consciousness are \textit{inalienable}” (Emphasis Mine, Hegel, 1967 §66, pp. 52-53). Consider a set of personal information about Iomelda: her date of birth, her place of birth, her parent’s names and her blood type at birth. This set of personal information is \textit{inalienable}; Iomelda cannot change this set of information about herself. Also note that even if this set of information is anonymised and cannot be used to identify Iomelda qua Iomelda, the information set itself still relates directly to Iomelda. Thus any ownership claims about this set needs to take Iomelda’s interests into account. §7.4.2 and §7.4.3 explain the moral importance of this.

While the moral relevance of such a set of information may be innocuous, consider the importance of social recognition of inalienable personal information: skin colour, for example, is mostly unchangeable. If a community judges that people with darker skin are to be valued less than people with lighter skin, despite the contingent nature of the value, the process of valuing can serve to harm and/or disrespect those with the darker skin. The relevance is that because of the inability to change skin colour, those with the darker skin may end up internalising the social disvalue associated with their skin colour, a point made in more detail in §7.4.3. In short, a person can become alienated from themselves as a result of negative social recognition of personal information. This alienation is not because there is no longer a relation between a

\textsuperscript{159} This is a paraphrasing of Waldron’s original quote: “A person’s will is embodied in an object to the extent that (1) his will has made a difference to the object and (2) the object, affected in this way by his will, itself makes a difference in turn to his willing” (Waldron, 1988, p. 370).
person and their personal information. Instead it is an alienation with key facts about
themselves, because they, the people from whom the personal information comes and to
whom the personal information relates, do not have control over the ways that given
personal information is recognised. While this may not seem to directly relate to rights
of ownership, if Hegel’s account of ownership has moral substance, then it can go some
way to justifying why a person or people should have some, albeit limited, recognised
rights of control over the inalienable personal information that comes from and goes to
them.

3.6 Canavan’s And Catalona Revisited: Relating Information To People
In the Canavan’s and Catalona cases, introduced in §3.1, the social good justifications
seem to count against the particular institutions that had made the claims of ownership:
A potential social good produced in the Canavan’s case is that a general recognition of
patent rights incentivises innovation, and as we have seen, this claim is contestable. In
the Catalona case, the judge argued that individual ownership could lead to social harms
as that might allow individual donors the ‘repugnant’ choice of selecting who receives
tissue donations (United States District Court, 2006). Yet if it is the case, then this
would surely apply to institutional owners as well: if it is ownership that allows
selectivity in who has access to personal medical information, then institutional
ownership may be as repugnant as individual ownership.

A different line of argument against individual ownership is raised by Margaret
Everett, in that individual ownership over personal information like genes can lead to
harm of commodification (Everett, 2005). This might be the case, but note that this is
an argument against any ownership of personal information: Any form of ownership of
genetic information can lead to commodification, and if commodification is a harm,
then we ought not recognise any ownership over personal information like genes.

Recall that the sample donors wanted to reduce the prevalence and suffering of
the given diseases of both cases (Andrews, 2006). The social good argument here is that
by allowing the donors and not the institutions the absolute rights of ownership (or at
least recognising that the donors ought to have a limited set of controls over the
personal information) this will reduce disease and so reduce harms and increase
happiness. On the social goods foundation then, it would seem that there are a number
of reasons to recognise the donor’s claims, more so than the institute’s claims of
ownership.
In relation to both labour investment and psychological individuation, recall that the people with the strongest claims of ownership are those people from whom the personal information comes and to whom the personal information relates. In the case of the Catalan’s donors, the people from whom the information came were individuals and families afflicted with the Canavan’s disease. In the case of Catalona, perhaps the strongest claims of ownership are those people suffering from prostate cancer – those people to whom the personal information is most relevant. In both situations then, if generating ownership claims from a foundation labour investment or psychological individuation, the weakest set of claims come from the institutional owners.

There are two major counter-arguments to the donor’s claims of ownership. Firstly, as it was the individual researchers who produced the relevant information, they have the strongest rights claims: by their efforts, the health information was aggregated, producing the new and valuable information. Countering this, we can note that this argument is mostly a labour investment argument, which we have seen is the weakest of the ownership arguments investigated. Instead, perhaps the psychological individuation argument applies to the researchers, as it was their will as expressed that the produced the relevant personal information. This might be true, but this only looks at one side of the relationship – the people to whom the information relates would have at least an equivalent claim of ownership as the researchers. Which would mean that that the sufferers of Canavan’s disease and prostate disease would have at least some justified claims of ownership over the information: neither the creators’ rights nor the institutions are absolute.

A different argument comes from the right of contract. On this, the rights of contract held between the institutions and the researchers trump the donors and disease sufferers’ ownership rights. This is, in essence, Nozick’s historical entitlement thesis. However, recall from §3.3.2 that Nozick gave no principle of initial acquisition. As we have seen, the most substantive moral justifications for initial acquisition are social good or psychological individuation, which mean that the contracts that transferred ownership from the researchers to the institutions ought to be recognised as weak claims at best. Again, looking closely at the justifications, the reasons favour the donors and other’s claims over the institution’s exclusivity claims.

160 “A person who acquires a holding in accordance with the principle of justice in transfer, from someone else entitled to the holding, is entitled to the holding” (Nozick, 1974, p. 151).
Two final points to note about the ownership claims in the Canavan’s and Catalona cases in particular, and ownership claims over personal information more generally: we are unlikely to find an *absolute* right of ownership. As we have seen, a ‘social good’ justification for ownership rights is not the standard ‘rights as trumps’ position often used in rights talk. As some ownership claims may increase harms or interfere with the promotion of the good, there may be situations in which the social good is advanced by not recognising particular ownership claims. On justifications by labour investment and psychological individuation, other factors need to be taken into account when considering claims of ownership. Again, what this means is there is possibility for an individual’s rights of ownership to be outweighed by other interests.

As a set of concluding remarks, three main points can be mentioned. Firstly, the two most substantial arguments for property rights come from social good and Hegel’s need for individuation. Depending on one’s particular moral tastes, one might support ownership claims justified by maximising social good or the need to express and recognise one and another’s will. Secondly though, if one is to take the moral systems that justify claims of ownership seriously, then one needs to recognise that there are likely to be situations where an individual’s claims of ownership may need to be placed behind other moral concerns.

Finally, in reference to personal information, in order to properly respect the moral claims of ownership, one needs to see who is most connected to and affected by the personal information. Further, recalling the introductory discussion from Chapter One, if one is to take ownership claims about personal information seriously, one needs to consider personal information in aggregate. Later chapters of this thesis show that identity presents a way of viewing claims about personal information that is responsive to individual claims of ownership, as well as fully recognising the importance of personal information in aggregate. However, in order to substantiate this claim, I need to spell out what I mean by identity, by information. Further, I need to show how identity and information relate to each other. Chapters Four, Five and Six do this.
Chapter Four: On Identity

4.0 Identity
This chapter develops identity in an informational sense. Technologies that produce and distribute innocuous personal information create ethical vacuums, the point raised in Chapter One. Chapters Two and Three then explored the problems posed by technologies to existing conventions of privacy and ownership that are typically used to deal with information. These three chapters have drawn attention to the fact that new technologies are creating problems for existing conventions like privacy and ownership. Before responding to these problems, we need some explanation of the links between different privacy concepts and personal information and some explanation why innocuous information should be viewed as morally weighty. Identity gives the ‘oomph’ to the justificatory reasons why we should care about personal information, particularly innocuous personal information. However, in order to respond to the problems raised so far identity needs to be conceptualised in a way that is relevant to information. This chapter develops the conceptual tools to consider identity in an informational context. Information is discussed in Chapter Five and the relations between identity and information are spelled out in Chapter Six.

§4.1 sets the stage for talking about identity in informational terms. §4.2 introduces the parts played by information in cognition and perception and places experience as a necessary element of perception, §4.3. Having shown the centrality of information to perception and experience, a range of identity concepts are summarised, in order to bring out a common element of identity discussions: relative equivalence, §4.4. Bringing together the discussion of perception and experience, and the relation of equivalence, §4.5 then develops a taxonomy of identity types to produce a general perceptual concept of identity which allows relations between identity and information to be recognised. §4.6 sets limits on identity and the chapter concludes in §4.7 with a discussion of Virtual Identity, to make clear how identity is relevant to information and new technologies.

4.1 What Are We Doing With Our Lives? The Case Of Sally Online
Consider that Sally goes online, to update a social networking site like Facebook. She posts photos, status updates, and a range of personal information about herself, in order

161 ‘Oomph’ is the term used by Richard Joyce to denote moral importance, described in §2.5.6.
to present herself in a given way. Sally’s brother Harry can look at her page online. Harry clearly knows Sally, but now has an idea what she looks like day-to-day, her status, what else she does through the day. Others can also access Sally’s page and learn about her despite these third parties not knowing her and Sally not knowing that they are learning about her. This is not limited to Facebook, or social networking sites. Whenever a person is online, they leave a data trail about what they have looked at, how long, what they have bought, how much they paid, etc. With the rise of smartphones that integrate GPS with online access, third parties can find out where Sally is when she logs in to change her status.\footnote{For example, in 2011, in the U.S., cellphone companies report at least 1.3 million data requests from law enforcement agencies (Maas and Rajagopalan, 2012). This data includes “location data, calling records and text messages” (Editorial, 2012).} Read an ebook, and a third party may now know how quickly Sally reads the book, what time of day she reads, if she finishes the book, how long she stays on a given page (Flood, 2012). This sort of information is being used to suggest to political parties the likelihood of Sally voting for them, what sorts of policy foci she would prefer, when to ask for political donations and how much to ask for.\footnote{Following the 2012 U.S. election, some placed the Obama victory at the Obama campaign’s use of data to follow and target voters (Scherer, 2012).}

The question is what are we doing with our lives? By this I mean to ask, is there a way of understanding such a wide range of actions that both describes what is happening and can capture the moral importance of these actions? These informational technologies encourage, allow and cause us to live our lives in ways that produce large amounts of information about ourselves. This information is then used in ways that impact our self understanding, ways we understand others and the ways that society understands us. These technologies are playing an important role in changing how we perceive and understand our selves and each other. Identity presents a unique way to spell out the moral importance the impact of these technologies in our lives. By demonstrating the role of information in identity, we’ll be in a position to see one important set of ways that informational technologies are impacting our lives, such that a principled ethical appraisal of the technologies can be given.

Some final points about the assumptions in this chapter: Firstly, the agents are assumed to be conscious human people. That is, I do not intend to explain how consciousness comes about, nor what it is.\footnote{Although I recognise here that my use of the term ‘consciousness’ is likely to be considered similar to, but not limited to, something like John Searle’s definition as “inner, qualitative, subjective states and processes of sentience or awareness” (Searle, 2000, p. 559).} This point is relevant as acknowledgment...
of a presumption of conscious agents prevents a homuncular regress.\textsuperscript{165} Secondly, this chapter uses a computational model of theory of mind. That is, I assume the human mind transforms experience of the world into useable representations (Sterelny, 1990, pp. 19-60).\textsuperscript{166} Finally, I am going use something like the language of thought hypothesis (LOTH) in my account of identity. On the LOTH, representations form the basic building blocks for thoughts, and they are then arranged ‘sentence-like’ into thoughts which take a propositional form (Sterelny, 1990, pp. 23-32).

4.2 Cognition, Perception And Identity

This section presents an account of cognition as thoughts about thoughts, investigates some of the neural processes underpinning human perception and illustrates how we process information to produce identities through integrative cognitive networks.

4.2.1 Human Cognition: Thoughts About Thoughts

Discussion of human cognition as a concept is surprisingly thin on the ground in analytic philosophy. While discussion of what terms mean is typical in analytic philosophy, when considered distinct from discussions about consciousness, qualia etc., exactly what the concept of cognition is has not had a lot coverage.\textsuperscript{167} This section develops an account of cognition from philosophy of biology to present a case that cognition, in particular, human cognition, can be understood as ‘thoughts about thoughts’. This cognitive approach in which the informational aspects of identity are investigated allows for identity and information to be related, ultimately producing the conceptual tools to assess informational technologies.

Taking the bacteria \textit{Escherichia Coli} as their starting point, Marc van Duijn, Fred Keijzer and Daan Frenken postulate minimal cognition as “an embodiment consisting of a sensorimotor coupling mechanism that subsumes a basic

\textsuperscript{165} See \S 4.5 for a description of the homuncular regress.

\textsuperscript{166} Note that as with consciousness, it is beyond the scope of this thesis to argue for a computational model over a competing theory like connectionism. And, as James Garson notes, computational models of the mind are common in discussions of philosophy of mind, and there is scope for compatibility between most connectionist and computational theories of mind (Garson, 2008).

\textsuperscript{167} Cognition, as a term is \textit{used} frequently within analytic moral philosophy – think of the role of cognitive capacity in assigning moral responsibility for example – but the meaning of the term cognition does not garner much attention. Though the term ‘meta-cognition’ as “thinking about thoughts” (Kornell, 2009, p. 11) comes closest to my use of cognition, the term ‘meta-cognition’ skims over what cognition is. My account instead offers description for cognition itself.
metabolic/autopoeitic network” (van Duijn, Keijzer et al., 2006, p. 159). A ‘sensorimotor coupling mechanism’ is some mechanism that integrates sensory experience with motor actions. In the bacteria that van Duijn et al. investigate, the bacteria receive information about attractant and repellent chemicals (sense) and can move towards or away from the chemicals (motor) (van Duijn, Keijzer et al., 2006, p. 161): hence sensorimotor. On this minimal account of cognition, note the three key factors – there is some information about the world (presence of attractant/repellent chemicals), there is some response to that information (the bacteria move towards/move away), and the response must be coordinated with the input in some way. This coordination presents the basis for minimal cognition. Van Duijn, Keijzer and Franken take pains to stress that this is different from metabolic controls: the bacteria do not directly manipulate metabolism, but instead change the environment such that the metabolic processes change (van Duijn, Keijzer et al., 2006, p. 164). This sensorimotor coupling mechanism is a biological function about a biological function. It is this ‘about’ which points to the basic form of cognition.

Increasing the complexity of organisms, Alvaro Moreno and Arantza Etxeberria consider neural networks as an example of a cognitive system within an organism, postulating that the nervous system is ‘decoupled’ from the basic metabolic system:

[W]hen we say that the nervous system is a dynamically decoupled system, we mean that nervous interactions obey a dynamics (or a set of rules) not governed by the general metabolic organization, although it is structurally maintained by it. Because of this dynamical decoupling from the metabolic operations, the appearance of the nervous system gave rise to an enormous variety of internal patterns of fast connections, capable of unlimited internal recursivity” (Emphasis Mine, Moreno and Etxeberria, 2005, p. 167).

Similar to van Duijn et al’s bacteria example, the nervous system displays a higher level of control over metabolism: “[I]n the organisms endowed with a nervous system...instead of through metabolic mechanisms of self-control, adaptation takes place through an informational meta-control on metabolic–motor functions” (Moreno, Umerez et al., 1997, p. 113). Neural systems present a system that is concerned with attending to, and responding to, metabolism in a way that is not direct control over metabolism itself. Neural control is about other biological processes.

In relation to human cognition, the process of some higher level of control and the decoupling of sensory representations marks our form of cognition as something beyond that of bacteria and animals with nervous systems (Kornell, 2009). In animals

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168 Autopoiesis refers to ‘self-producing process’ (van Duijn, Keijzer et al., 2006, p. 159). That is, the processes that underpin self-replication.
like humans, decoupled representation,\footnote{Sterelny’s use of ‘decoupled representation’ is in reference to the response being decoupled from the stimulus. This is compatible with but a slightly different use from the way that Moreno and Etxeberria mean it, where one system is not governed by another.} is discussed by Kim Sterelny as a process where we take in and process information about the world, in which the inputs do not produce a single automatic response. “That is, we have internal cognitive states which (a) function to track features of the environment, and (b) are not tightly coupled functionally to any specific type of response” (Sterelny, 2003, pp. 30-31). To have a decoupled representation means that the stimulus does not determine the response; the response has been ‘decoupled’ from the stimulus. For instance, consider that you see a bear: you have a visual representation about the world: ‘there is a bear standing in front of me’. Having capacity for decoupled representations means that you have additional mental processes about that representation: ‘I see a bear, oh no, I hope it doesn’t kill me, I’d better run away, oh wait, do I run away, or run at it, or curl up into a ball, oh why didn’t I read that bear safety brochure’. Seeing the bear is a ‘coupled’ representation – if your eyes are open, you can’t choose not to see.\footnote{This is a simplification of seeing, as seeing is more complicated than presented here. For example, things within our field of vision may not be seen at all (Mack, 2003). This ‘inattentional blindness’ is discussed in §4.3.2.} However your responses to the visual stimulus, ranging from ‘I recognise that that shape in front of me is a bear’, to ‘why didn’t I read that bear safety brochure’, are thoughts about the visual stimulus being represented. “[W]e have internal states that track aspects of our world, but which do not have the biological function of controlling particular behaviors. Beliefs are representations that are relevant to many behaviors, but do not have the biological function of directing any specific behaviour” (Emphasis Mine, Sterelny, 2003, p. 29).

A general account of cognition becomes apparent – it is not the representation formed when our senses transmit information about the world – it is the thought about the representation: a mental process about a mental process. In short, a thought about a thought. Like Nate Kornell’s ‘metacognition’ (Kornell, 2009), complex cognition involves thoughts about thoughts. The basic premise here is that in evolving these decoupled representations, humans started to have thoughts about thoughts, and as our cognition evolved, these thoughts became increasingly abstracted\footnote{This point, that certain aspects of our sensory process are ‘cognitively impermeable’, is made by Jerry Fodor (Fodor, 1983, pp. 52-55) and is discussed below.} – that is, our thoughts became further and further decoupled from the original source representations.

\footnote{For more on human evolution and decoupled representations, see Part 1 of Sterelny’s Thought In A Hostile World (Sterelny, 2003, pp. 1-96).}
Consider that when a person reads Romeo and Juliet, they are likely not thinking about the black and white symbols in front of them: typically people do not think about the letters, the words, the sentences or perhaps even the story, but the psychological state of Romeo or Juliet: we produce thoughts about thoughts about thoughts and so on. Note that this increasing abstraction does not necessarily mean that the thoughts about thoughts are lacking in detail. Clearly, when thinking about the psychological state of characters in a novel, the reader constructs highly detailed representations of those characters. The increasing level of abstraction here refers to the increasing levels of thoughts accessing different representations, possibly integrating multiple representations and beliefs together and responding to them. Cognition, so described, is the process of having thoughts about thoughts, often involving complex interactive networks of representation and belief: thoughts about thoughts.

A final point on decoupled representation and cognition as thoughts about thoughts is ‘cognitive permeability’, that is, how much can thoughts influence other thoughts? On the computational theory of mind, Jerry Fodor argues for a modular mind, in which certain aspects of brain process are ‘encapsulated’; they are not accessible to the conscious mind. This is one of Fodor’s key arguments (Fodor, 1983; Sterelny, 2003, pp. 185-186). Extending Fodor’s modular thesis, some argue for a ‘massively modular mind’ (Sterelny, 2003, p. 185-194). However, even holding to a theory of a massively modular mind, we can recognise some role of cognition in directing mental processes. That is, at least some of the brain’s processes are cognitively permeable: thoughts about thoughts can influence the thoughts that people have. On the model of cognition presented here, even sub-personal thoughts, i.e. those thoughts that a person has about the world of which this person is not conscious, can influence the way that this person thinks. What a person thinks about themselves and about others will influence how they think about their selves and others.

4.2.2 Dual Process Scheme Of Perception: Feed Forward Perception (FFP)

Sense organs receive information about the world, and through transducers and input systems, transform that information about the world into a format that the brain can

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173 The book *The Modularity Of Mind* is, unsurprisingly, an extended argument as to the modularity of mind (Fodor, 1983).

174 For instance, Cordelia Fine argues that rational thoughts have a perceptible influence on moral intuitions (Fine, 2006). In short, moral intuitions are cognitively permeable.

175 This reference to ‘their selves’ is not a typographic error, but an intentional separation between the person thinking and the thoughts they are having. I cover this in §4.6.
“what perception must do is to represent the world as to make it accessible to thought” (Emphasis Original, Fodor, 1983, p. 40). Two related processes, fine grained details and abstract generalizations are both utilised in perception. In what is called the dual processing scheme, these two perceptual processes occur simultaneously, ‘feedforward processing’ (FFP) and ‘reverse hierarchy theory’ (RHT). This was originally proposed for visual perception by Shaul Hochstein and Merav Ahissar (Hochstein and Ahissar, 2002). Shihab Shamma outlines a similar dual process scheme for auditory perception (Shamma, 2008). Dual process perception operates in two directions. Hochstein and Ahissar make a distinction between FFP and the RHT as follows: “[p]rocessing along the feedforward hierarchy of areas, leading to increasingly complex representations, is automatic and implicit, while conscious perception begins at the hierarchy’s top, gradually returning downward as needed”(Hochstein and Ahissar, 2002, p. 791). The RHT is discussed in §4.2.3.

In FFP, incoming data is transformed for use by being broken down into fine detail. The finest visual detail about the world comes at recognition of an object’s edges (Sterelny, 1990, pp. 62-80) and auditory recognition of specific frequencies (Rauschecker and Scott, 2009). In voice recognition, specific brain regions and specific neurones are involved in recognition of different auditory object classes (Rauschecker and Scott, 2009, p. 719). “Cortical specialization is generated by specificity at the level of single neurons…Higher order specificity is generated by combining input from lower level neurons specific to relatively simple features” (Rauschecker and Scott, 2009, p. 720). For instance, rhesus monkeys have specific neurons receptive to specific frequency modulated (FM) sweeps found in the harmonics of other rhesus monkey calls. These sense inputs are broken down into very general types, known as ‘what and where’. The what type is concerned with what is being looked at, what is making a noise, while the where type is concerned with location of the input source.177

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176 I recognise here that I use information in two different ways here. The first ‘pre-processed information’ tracks to a thin conception of information as ‘ordered data’, while the second ‘processed information’ refers to a thicker concept of information as ‘ordered meaningful data that is judged to be true’. Chapter Five discusses different conceptions of information.

177 In visual perception, sense data is carried from the eye to the primary visual cortex. The what data travels to the inferior temporal region, while the where data travels to the posterior parietal cortex (Mishkin, Ungerleider et al., 1983 –415). For auditory perception, the sense data is carried from the ear to the primary auditory cortex, the what data then travels to the superior temporal region while the where data travels to the posterior parietal cortex, (Rauschecker and Scott, 2009, pp. 718-719).
When observing other people, different regions in the brain process different object classes. The visual processing of the human body, for example, occurs in the extrastriate body area (EBA) of the brain, while facial processing occurs in the fusiform face area (FFA) of the brain (Downing, Jiang et al., 2001). When processing the face, different parts of the face are processed differently too: “[V]isual perception and cognition appear to be served by distinct mechanisms for at least a select few categories, including faces, places and bodies” (Downing, Jiang et al., 2001, p. 2472). These different regions also process learned information about things like another’s emotional states.

Incoming information is processed into something that the brain can use, some form of representation of the world: it has been transformed from input about an object or event, to a representation of that object or event. However, at this level of detail, the world is still not recognisable, it must be built up. The transformed information is then processed upwards through series of hierarchical processes to produce representations of ever greater informational complexity. The processed information converges and is integrated by neuroanatomical computational hubs (Rauschecker and Scott, 2009, p. 720; Sporns, Honey et al., 2007). Through convergence of processed sensory inputs, the observer constructs an integrated representation of the object or event being perceived.

The model of visual recognition is one of increasing neural specificity obtained by integration of convergent neural information within and between neural computational hubs to produce an emergent visual representation of the perceived face, body and ultimately of the whole person. An observer constructs a rich representation for another by integrating perceptual information about that person, a composite of visual representations producing a comprehensive set of observations for a given subject of observation. Likewise, auditory sense data is also sorted into different object classes, “auditory objects coexist based on many attributes, such as timbre, pitch and loudness, that give each its distinctive perceptual identity” (Rauschecker and Scott, 2009, p. 719).

178 Despite scientific literature lending support to the domain specific view of facial recognition (Kanwisher, 2000), this is not to say that particular brain regions are necessarily limited to specific perceptual functions. Valerie Hardcastle and Matthew Stewart argue that though specific forms of perception are regionally, perhaps neurally, specific this does not mean that a given brain region is only limited to one form of perceptual processing (Hardcastle and Stewart, 2005). Further to this, Andy Clark describes a series of technological developments where blind people have been given ‘sight-like’ representations of the world via touch (Clark, 2008, pp. 35-37).

179 For example, the neocortical regions of the brain interact with the left and right hemispheres of the amygdala to produce socially contextualised fear reactions in response to the direct gaze of others (Skuse, 2006).
Auditory perception also does not simply relate to what and where questions, but also who is talking.

This starts to show the relevance of the discussion of neurological process and the role of information in identification of others: the convergence of processed sense data produces not only recognition of what is being looked at, or what spoken words are being heard, but also who is being seen, who is talking. Through integration of the fine grained detail, the observer constructs a representation what a person looks like and sounds like, which they use to identify that person. These integrated representations exhibit complex cognitive processes, a vast array of thoughts about thoughts occurring at a sub-personal level. Unless something goes wrong in our cognition, we do not even know that we are constructing these integrated representations. As a person experiences more about the world, they develop a set of dynamic cognitive frameworks, a complex set of interacting thoughts about thoughts that form, frame and focus how that person understands the world.

4.2.3 Dual Process Scheme Of Perception: Reverse Hierarchy Theory (RHT)

This brings us to the RHT. Rather than attending to fine detail and building up a complex representation, the RHT takes the object of perception to be the whole complex scene:

[RHT] proposes that the…forward hierarchy acts implicitly, with explicit perception beginning at high-level cortex, representing the gist of the scene on the basis of a first order approximate integration of low-level input. Later, explicit perception returns to lower areas via the feedback connections, to integrate into conscious vision with scrutiny the detailed information available there. Thus, initial perception is based on spread attention (large receptive fields), guessing at details, and making binding or conjunction errors. Later vision incorporates details (Emphases Original, Hochstein and Ahissar, 2002, p. 792).

The dual process model, involving both ‘bottom up’ processes of the FFP and ‘top down’ processes of RHT, explains perception in terms of an integrated system modelled on the most efficient method of identification. If an observer has encountered a given input – a visual cue or noise, it will be more beneficial to recognise the input as the higher level abstracted object rather than the low-level cue. The RHT: postulates that a parsing decision is first based on the highest available level of…representation (e.g., objects). If the discrimination task is poor at that level…it proceeds down the representational hierarchy to benefit from more detailed, lower-level cues that participate in generating the percept. If the high “objects” and their “low-levels cues” are congruent, the feed-forward process is
rapid, and use of all available salient cues is effective and comprehensive (Shamma, 2008, p. 1141).
For instance, rather than needing to process all the fine detail of an incoming predator, an observer need only recognise the rapidly moving object as ‘possible lion’. Consider an observer in a crowd who is searching for a particular person. Recognition will be more likely and efficient if anticipating meeting this person. The higher level abstracted representations will enable Harry to rapidly recognise his sister Sally if he anticipates that she will be in the crowd. Likewise, the dual processing account explains why Harry thinks he saw Sally, despite knowing she is overseas – a stranger’s facial structure, body shape, tone of voice, may call to Harry’s mind the complex representation of Sally, despite knowledge that she is not there. The existing cognitive framework accesses the general abstraction of the friend despite the lack corresponding incoming information.

4.2.4 Informational Processing, Cognition And Identification
Perception of others involves the transformation of information into a set of representations, involving both FFP and RHT process. In FFP, sense data is transferred to specific brain regions and neurons. It is transformed into representations allowing for subsequent processing of representations. These complex neural interactions produce detailed composite representations of what, and who, a person is seeing and hearing. Like the construction of complex sentences, we perceive others through the integration of fine grained detail about a person to give the observer an informationaly rich multi-modal complex representation of the subject being observed. In the RHT, we perceive a person in part based on the abstract representations already familiar to us.

Both the FFP and RHT rely on complex cognitive processes. The FFP involves the building up of incoming information into complex representations of the world. Going back to §4.2, the incoming perceptions are thoughts about thoughts. In the RHT, the abstract representations consist of complex representational networks built from previous experiences. They are rapidly compared to the gist of the current perception. Again, perception is driven by a set of thoughts about thoughts. While it is a trivial truth to say that perception relies on neural processes, the cognitive model adds something: it shows that getting a full and rich perception of the world involves processing of

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Note that this presupposes that the observer has already encountered lions or similar predators, or had been taught about them, to be able to identify ‘possible lion.’ The initial observation would need much finer-grained detail found at the lower level.
information. This perception relies on building up and integrating incoming information, as well as having existing relevant experiences. Cognition, thoughts about thoughts, is necessary for perception.

The role of information in identification and recognition of people, including one’s self, shows that identity formation is a cognitive process, dependent upon the information an observer has about that person. When meeting a person, the observer will rely on the dual process schema. The FFP will be concerned with the fine grained details of body shape, facial structures, voice tone and complex behavioural cues. The RHT will be concerned with identifying the person as someone new or previously met, and will likely then be comparing novel behaviours with experience, attending to any noticeable differences in appearance, behaviour etc. Experiences of people, how the observer forms a representational experience of them, are ultimately complex cognitive process involving a huge set of thoughts about thoughts. Cognition allows identity to be understood in informational terms.

4.3 Experience: What We Know Tells Us What We Will Know

This section presents evidence that background mental processes influence perception. The basic point is that our experience plays a major role in how we form identities for our selves and others.

4.3.1 Do You See What I See?

The idea here is that a person’s processing of observed sense data will be fundamentally influenced by previous experience. That is, perception has a necessarily subjective element. As Norwood Hanson stated “there is more to seeing than meets the eyeball” (Hanson, 1958). Alan Chalmers notes that “[t]wo normal observers viewing the same object from the same place under the same physical circumstances do not necessarily have identical visual experiences, even though the images on their respective retinas may be virtually identical” (Chalmers, 1999). Consider figure 4.1 below, a ‘Necker Cube’:
The picture itself remains constant. That is, the information meeting the eyeball of two observers will be the same, yet two observers can see two different images. Observer One may see the cube with the top left square as its front, while observer Two may see the cube with the bottom right square as the front. Note also that this does not presume that one observer is correct while the other observer is confused or mistaken. They both receive the same information, both process it correctly but are both seeing something different.

To describe subjective perception from another angle, consider that twins John and Jim are each eating a slice of cake. Imagine that John and Jim have an exactly similar sense of taste – i.e. both are the same age, with equivalent life experiences, the same cultural background etc. The same cake is served to both John and Jim, yet both will experience the cake differently. John enjoys the cake but feels guilty as he is developing diabetes and promised his girlfriend that he would remain on a low-sugar and low-fat diet. Jim however, has no such guilt as he is unaware that he is developing diabetes, and the cake tastes similar to his wedding cake. For John, eating the cake produces sensations of flavour coupled with guilt while for Jim, eating the cake produces sensations of flavour coupled with nostalgic happiness for his wedding day.

Brian Wansink describes a large set of experiments in which people’s perception of food is influenced by things like colour, serving size, menu descriptions (Wansink, 2006).

Similarly, recent research has shown that information as to the cost of wine can result in people tasting the same wine differently (Plassmann, O'Doherty et al., 2007).

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181 In one particularly interesting example, two groups of diners were told that they are receiving a free bottle of wine, from different regions. Group A are told their wine is from a region known for making good wine, while Group B’s wine is from a region not at all known for making good wine. However, despite being told differently, Group A and B receive the same wine and the same meals. Despite the wines and the meals being exactly the same, those people in Group A not only rated the taste of the wine higher than Group B, they ate more food, stayed longer and gave the food itself an overall better rating (Wansink, 2006).
2008). The visual and flavour examples show that one thing with constant properties like the necker cube or, two things that are exactly similar, slices from the same cake, can be perceived differently by different observers. Further, as with the wine examples, differences in perception can even occur in the one observer, depending on what the observer is thinking. The particular point here is subjective experience, anticipation, expectation and prior knowledge can heavily influence people’s perceptions of the world.

4.3.2 Existing Cognitive Networks And Dual Cognitive Processes

The dual process model of perception can help explain this differential model of perception. FFP involves the apprehension of fine grained details about the world. The RHT model proposes that the gist of the scene is presented to the observer in a top down process. Importantly, “a parsing decision is first based on the highest available level of...representation” (Emphasis Mine, Shamma, 2008, p. 1141). While FFP and the RHT both occur in perception, the emphasis here is that the abstract representation often guides perception the world. A cognitive network is the set of integrated and interactive thoughts that a person has about the world.

Two areas of research offer evidence that the top down processes of RHT guide perception of other people: inattentional blindness and content of experience. When we perceive things, we focus attention to things that matter and are ‘blind’ to other things. This is known as ‘inattentional blindness’. Inattentional blindness is relevant to perception as it relates to what is actually ‘picked up’. In experiments conducted in the late 1970s, by directing an observer’s visual attention to one set of events, researchers showed that the observers were blind to another set of events (Neisser, 1979). For instance, the researchers had observers watch recorded footage of people passing a basketball amongst themselves, whilst counting the number of passes. At the same time as the basketball was being passed, a woman walked through the scene with an open umbrella. In the original experiments, only 21% of the observers reported seeing the unexpected element, the woman with the umbrella. This was despite the fact that she was in plain view. More recently, this effect has been repeated using men in gorilla suits

182 I say ‘help’ here as there are a host of different neurological processes occurring in perception, only some of which can be explained by the dual process model. 
183 A similar point about informational emergence and downward causation is made and elaborated in §5.7.2.
as the unexpected element (Simons and Chabris, 1999). This can be explained via the dual process model of perception, in that the top down representations are guiding the focus of attention. If Harry is looking for Sally in a crowd, the abstract representation for Sally guides Harry’s attention, leaving him blind to other visual data.

However, the top down representations do more than just guide data pick up; they can also guide how a person is perceived. “[T]op-down processes coordinate and bias local activity across lower-level regions based on information derived from global, contextual, and gist information” (Emphasis Mine, Kveraga, Ghuman et al., 2007, p. 148). For example, when Harry first met Sally, he typically takes in a lot of fine grained detail. But once he becomes familiar with her, the abstract representation of Sally will serve as the primary form of recognition.

These [top down] models...generally posit that predictions based on prior experience are generated in higher-level areas and projected to lower-level areas to guide the recognition process driven by sensory information. Guidance is implemented by using these top-down predictions to sensitize bottom-up stimulus-driven processing. Therefore, top-down predictions facilitate the recognition process by reducing the number of candidate representations of an object that need to be considered (Emphasis Mine, Kveraga, Ghuman et al., 2007, p. 149).

Again, we have the abstract representation guiding the processing of fine detail. This is what is referred to as global precedence, “in which global information in an image is processed before the fine details and predominates perception” (Kveraga, Ghuman et al., 2007, p. 153). The higher level abstract representation of a person guides perception.

Further to this, Kestutis Kveraga, Avniel Ghuman and Moshe Bar propose that the observer’s previous experiences will shape the perception of people:

We propose that this process is based on information that is extracted quickly...whereby people use these global properties to link the new person with a familiar person in memory (e.g., ‘‘who does this person look like’’), even if not explicitly. Once a link is found, we automatically project information such as personality attributes to the new person based simply on this analogy (Emphasis Mine, Kveraga, Ghuman et al., 2007, p. 162).

Note that these ‘global properties’ track to the high level abstract representations involved in RHT. Again, the RHT drives how others are perceived.

The basic point being made here is that an observer’s perception of another person is heavily influenced by their experience: The observer’s existing cognitive networks shape not only what they observer pay attention to, but how those things are perceived. The way in which another is experienced is the result of thoughts about thoughts. That is, identity formation is a cognitive process.

\[184\] Footage of the gorilla tests can be seen at http://www.youtube.com/watch?v=vJG698U2Mvo.
4.4 What Is Identity?  

Identity has been referred to throughout, but the question ‘what is identity?’ remains unanswered. This section looks at different concepts of identity and raises them to a common level of abstraction in order to find a common element. My conclusion is that when one makes an identity claim, one is making some claim of ‘relative equivalence’, stemming from an evaluation that there is some equivalence (or sameness, similarity, commonality etc.) between two (or more) things. Finding a common element then allows a systemised discussion of identity - §4.5.

So, ‘What is identity?’ The answer seems obvious - My identity is me, your identity is you, his identity is him and so forth. In its simplest terms, when we make an identity claim, we are saying that ‘\( Y = Y \)’. While this is true of strict identity, in common use, identity can mean something different to the exact sameness of ‘\( Y = Y \)’. In some uses, identity allows for some change between \( Y_{\text{time } n} \) and \( Y_{\text{time } n+1} \), while in other uses, identity means that \( Y \) has property \( y \) which is part of some set \([a-z]\). There are at least four different concepts to which identity commonly tracks: Numeric Identity, concerned with a person’s persistence through time; Character Identity, the qualitative personality of an individual; Group Identity, socio-political communities; and Essentialised Identity, reduction of a person to a specific identifier.

In what follows in this section, I will not be seeking to resolve what the content of a given concept should be. The purpose here is to give enough clarity for each concept of identity to make it reasonably distinct from the other concepts, whilst seeing what they have in common. Secondly, while distinct, the concepts inform and impact each other. That is, what one presumes about one concept can have an important relationship to another. Thirdly, some disciplines may find the terms used are not the most common ones used for a particular area. I have adopted the given terms in order to make the differences between the concepts clearer. Fourth, the goal is to find a common

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185 Much of this discussion in this section is adapted from a paper published elsewhere, (Henschke, 2010).

186 I mean here to show that identity can commonly mean something different to the idea of strict identity such as in the sense covered by Leibniz’s law, where identity means ‘\( X \) and \( Y \) are exactly the same’ (Olson, 2010). Following Bishop Butler (Butler, 2008, pp. 100-101) and Donald Baxter’s distinction between strict and loose senses of identity (Baxter, 1988), I am using a looser sense of identity. I note that this possibly trades on identity as being relative, in which “[i]t is possible for objects \( x \) and \( y \) to be the same \( F \) and yet not the same \( G \)”(Deutsch, 2009). However I cannot go into deeper discussions of the issues arising from a relative identity approach here.

187 Note here the capitalisation of Numeric Identity, Character Identity etc. This is in line with the discussion of terminology from §1.4.2.

188 For instance, Numeric Identity has a long history of people arguing about what it is (Perry, 2008b, pp. 3-30). I do not aim to resolve any of those arguments here.
element, not to reduce the concepts to a single definition.\footnote{Often there are sound historical and practical reasons for the same word to track to different concepts (Griffiths and Stotz, 2006, pp. 500-501).} The concepts are described with sufficient broadness such that the majority of common conceptions can fit within the descriptions offered. Finally, the taxonomy offered here is not the only way to carve up the concepts.\footnote{Christine Hauskeller, for example, offers a different taxonomy, consisting of two different concepts; logical identity and psychological identity (Hauskeller, 2004). My taxonomy tracks to Hauskeller’s, with my Numeric Identity and Essentialised Identity fitting mostly under her ‘logical identity’, while my Character Identity and Group Identity fitting mostly under her ‘psychological identity’. However, given the different goals of Hauskeller’s paper and my thesis, the taxonomies are reasonably serving different purposes.} Again, my goal is to find some common element, such that I can show how identity is a morally relevant feature when considering personal information.

4.4.1 Numeric Identity

Discussions of Numeric Identity\footnote{Use of the term Numeric Identity for this concept may be considered unorthodox as Personal Identity is typically used in philosophical discussions. Numeric Identity has been chosen as Personal Identity can immediately bring to mind the concept of a personality, a person’s psychological or ‘Character Identity’, §4.4.2. Use of ‘Numeric Identity’ is intended to make the concept distinct from Character Identity. Secondly, Personal Identity, while commonly used in philosophy to relate to persistence through time, is also conventionally used in other fields to relate to a person’s psychological or character identity: Daniel Solove’s book The Digital Person is one such example (Solove, 2004). I emphasise that Numeric Identity, as I describe it, can be considered equivalent to the philosophic conventional use of Personal Identity.} are often concerned with what is needed for a thing to be the same as itself. If time passes, how do we judge that $Y_{\text{time } n+1}$ is still $Y_{\text{time } n}$? Many accounts of persistence hold that sameness through time does not have to mean exactly the same. For instance, it seems reasonable to say the water in a river may change, whilst saying that the river remains the same (Perry, 1978, pp. 13-14, 22-25). But if we allow for change, how do we know that something or someone is the same as they were? The person who Sally was when she was young is vastly different in size, shape, knowledge, outlook etc. from who she is now. And if she lives to be eighty, she will be different to who she is now. But despite these changes, most of us would say that Sally is the same person she was at ten years old, now and until she dies (and possibly beyond). That is, Sally’s identity persists through time, despite the obvious fact that she has changed. How to explain this?\footnote{Though much more can be said about Numeric Identity, this overview is intended to give enough of an idea of the concept such that it can be recognised in contrast to other identity concepts.}

John Locke offered memory as a way of explaining a persistent Numeric Identity for people through time.\footnote{Note that Locke’s Memory Criterion of Identity is often given as Locke’s Memory Criterion of Personal Identity (Perry, 2008a). As mentioned, the term Personal Identity is typically used in philosophical discussions of this sort.} Sally knows now that she is the same person she
was when she was ten years old because she remembers that she was that person. Likewise, when she is eighty, she will remember who she is today. So we can say that she has the same identity through time, despite whatever changes have occurred. But there are problems with the memory criterion – for instance, false memories (Levy, 2007, p. 159) and circular reasoning (Butler, 2008, p. 100). In response, the memory criterion has developed into that of ‘psychological connectedness’ whereby the criterion for Numeric Identity is that a person’s psychological states connect through time. Psychological continuity requires overlapping chains of direct psychological relations (Parfit, 1971b, p. 20; Parfit, 1987, pp. 204-209, 219-223). Put simply, the person Sally is today is very similar to the person she was yesterday. The person she was yesterday is very similar to the person she was two days before, and so on. So though she may not be similar now to the girl she was when she was ten years old, as long as there is a continuity of states that links the person she was then to the person she is now, an identity claim holds.

Others deny the psychological criterion of identity, and instead propose that physical criteria are the proper criterion (DeGrazia, 2005, pp. 11-76). Eric Olson describes this as the ‘somatic approach’ (Olson, 2010). The reason for this, so the somatic theory goes, is that the correct criterion for identity is not psychological but the persistence of the physical body: As long as Sally’s body persists through time, she remains the same person.

### 4.4.2 Character Identity

The concept of **Character Identity** is concerned with characterising a person. This concept relates to a question of the sort ‘what am I like?’ “[T]he characterization question [is a] question of which mental states and attitudes…belong to a person” (Emphasis Original, Levy, 2007, p. 158). Character Identity is heavily reliant upon memory. “Our identities…are diachronic entities: I am the sum of my plans and policies; I work towards a goal and I understand myself in terms of my background – where I’m coming from, as we say, is where I come from…Memory links my past to my future self, and makes me the person I am” (Emphasis Mine, Levy, 2007, pp. 158-159). Confusion can arise between Numeric Identity and Character Identity for a

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194 Other examples of the somatic approach include Bernard William and David Mackie (Mackie, 1999; Williams, 1970).
195 Note that Character Identity might also be called psychological identity, psycho-social or even personal identity, depending on the discipline and user.
number of reasons. Both concepts take into account a person existing through time, and if one takes the psychological criterion of identity to be the proper location for identity persistence, then memory is an important part. Numeric Identity seeks to determine if Sally is the same person as she was yesterday, while Character Identity seeks to describe the sort of person she is: the first seeks answers to questions of logical identity, the second, questions of psychological identity (Hauskeller, 2004, pp. 286-287).

A person’s character is liable to change through time, and sometimes these changes can be profound. For example, consider that Sally was a lesbian anarchist vegan but is now heterosexual, works as a corporate lawyer and eats meat regularly. We are likely to agree when she says she is a different person, but we don’t take that as meaning that her Numeric Identity has changed. Rather, we acknowledge that the traits, qualities and characteristics of her identity that we knew are now different, her character has changed. Her identity (Numeric) is the same, while her identity (Character) is different.

4.4.3 Group Identity

The identity concept, Group Identity, is concerned with the context and resulting content of a person’s identity, the social environment that goes into forming a person’s identity. While it is true that our identities, in the character sense, are psychological, it seems trivially true: if we don’t know the origin of this identity we end up with a thin account of identity.

“The full definition of someone’s identity thus usually involves not only his stand on moral and spiritual matters, but also some reference to a defining community” (Taylor, 1989, p. 37). A fuller approach to identity than an ideal of the self as separate from society, Group Identity is concerned with acknowledging the social embeddedness of our identities – our relations with others are essential to the development of our identities. “[P]ersons are fundamentally social beings who develop the competency for autonomy through social interaction with other persons” (Friedman, 2000, p. 40). A person’s Character Identity is heavily influenced by the social groups

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196 For instance, this focus on social embeddedness seeks to make the self something more than the enlightenment ideal of the autonomous identity as something unencumbered and independent from its social context (Mackenzie and Stoljar, 2000, p. 11). However, this should not be taken to mean that we are the simple product of our social context, reflecting a given set of social values and ideas like a mirror. As Larry May has argued (May, 1996, pp. 14-18, 26-27), as people mature, they can develop the capacity to reflect upon their inherited values, and can change those values through time, ultimately changing their identity through reflective repetition and willing identification. I talk about these issues and tensions in §4.6, and in §6.2 – §6.3.
that they identify with, and the groups that others identify them with. “One is a self only among other selves. A self can never be described without reference to those who surround it” (Taylor, 1989, p. 35). At the same time, these social groups are partially determined by the individuals that they are composed of, and by those who compose the groups. “I am part of their story, as they are part of mine. The narrative of any one life is part of an interlocking set of narratives” (MacIntyre, 2008, p. 218).

Group identity becomes particularly important when discussing so-called ‘identity politics’.

[A] person or group of people can suffer real damage, real distortion, if the people or society around them mirror back to them a confining or demeaning or contemptible picture of themselves. Nonrecognition or misrecognition can inflict harm, can be a form of oppression, imprisoning someone in a false, distorted, and reduced mode of being (Taylor, 1994b, p. 25).

The recognition of the importance of Group Identity requires that when I describe Sally as ‘a lesbian anarchist vegan’, I am not simply listing a set of attributes associated with the person: I am acknowledging the vital role of society in formatting her identity and ascribing a set of values to that person. When I say ‘she is female’, I am not only saying that Sally’s identity (Numeric) is (and possibly always was) female, nor am I saying that her identity (Character) is as a female, but I am also saying that the identity (Group) that I identify her with, is that of the ‘female type’, however that is conceptualised.

4.4.4 Essentialised Identity

A concern about Group Identity occurs when we reduce a person to a narrow set of group identity attributes. ‘Lesbian anarchist vegan’, for example, risks reducing Sally to just this set of attributes. The full richness of her character is reduced to a single essence. To describe someone as simply ‘a lesbian’, ‘an anarchist’, ‘a vegan’ etc. can be morally problematic for a number of reasons. First, given the historical treatments of minorities, a reductionist description can recall and reinforce discrimination. Secondly, the individual ceases to be considered as a person and becomes simply that trait. Their human essence has been reduced to a single ‘fact’, a stereotype (Straub, 2002, p. 70).

Essentialising can de-personalise an individual, or group of people, in a number of significant ways. Distinct from the concept of Group Identity, it denies that the

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197 Another way of characterising this problem is that essentialising a person consists in only appraising them in reference to a narrow set of traits and overlooks a requirement of recognition respect owed to all people in virtue of them being a person. Stephen Darwall differentiates between recognition respect and appraisal respect, (Darwall, 1977) a point I return to in §7.4.3.

198 Further discussion of the moral importance of identity occurs throughout Chapter Seven.
person is any more than the given attributes. Such a process can deny a person the right to wilfully create their own identity in the way. For instance, essentialising a person’s identity can reduce their capacity to conceive of the values that are incorporated into their character identity (Mackenzie, 2000).

However, Essentialising someone may not necessarily be morally problematic. Consider a biometric identifier like a fingerprint or retinal scan used to confirm that the person requesting access to a building or important file is Sally, and she can legitimately access the building or file. For the purpose of access, Sally is reduced to a fingerprint or retinal scan. Identity Management is relevant to ICT (Information Communications Technology) and security, whereby the focus is on a given identifier, for reasons of efficiency, privacy and the like. Given the rise of sensitive personal information being remotely accessible, effective identity management is a necessary element for maintenance of other morally important values.

Note also how something like personnel identity, mentioned in §2.1, comes almost full circle to Numeric Identity: a given identifier (Essential Identity) can be used to confirm that a person is who they say they are, it is used to confirm persistence through time.

4.4.5 A Common Element?
What do these concepts have in common? The four concepts contain some judgment of relative equivalence. That is, they implicitly or explicitly make some comparison between two (or more) things, and decide for whatever reason, that the two things are the same or relevantly similar or equivalent etc. I suggest that a common element across identity concepts is relative equivalence. That is, some judgment of equivalence is being made between Y and Z.

On this, Y and Z may be different things – a person changing through time. Y and Z may also be different types of things – a person and a particular characteristic of that person. Further, to say that Sally (thing Y), has a good sense of humour (thing Z), is not to say that that is all there is to Sally. Likewise, to say that Sally (person Y), is an atheist (trait Z) is not to say that Sally is an atheist and nothing more. In saying ‘Y is equivalent to Z’, that equivalence is relative to the given identity concept being used and the context of use.
4.5 A Taxonomy Of Identity Elements

This section builds from the discussion of cognition, perception, experience and relative equivalence to present a taxonomy of identity elements: Self-Regarding Identity, §4.5.1, Other-Regarding Identity, §4.5.2 and Other/Other-Regarding Identity, §4.5.3. A general account of identity is then presented as ‘identity is who X perceives Y to be’, written alternately as ‘X perceives Y to be Z’. I spell out the different elements of the general account, §4.5.4. This general account works across the four identity concepts just covered in §4.4, depending on the identity concept being used, I could say for:

- Numeric Identity that ‘I perceive myself to be the same person I was yesterday’,
- Character Identity that ‘I perceive myself to be a funny guy’,
- Group Identity that ‘I perceive myself to be a Christian’, and
- Essentialised Identity that ‘I perceive myself to be employee #5425777’

The four identity concepts can be fitted all three elements, Self-Regarding Identity, Other-Regarding Identity and Other/Other-Regarding Identity. Finally, these are considered to elements: each of them is relevant to how an individual sees themselves and sees others.

4.5.1 Self-Regarding Identity: I Am Who I Perceive Myself To Be

If asked who they are, a person could reply ‘I am me’. However, recall from §4.2 and §4.3 that perception constitutes processing of information about a particular object or thing, and that perception is dependent in part on who is doing the perceiving. When considering the answer ‘I am me’, a Self-Regarding Identity arises when a person has thoughts about the representations of their self.

Firstly, this person may be consciously or unconsciously referring to any of the four identity concepts introduced in §4.1. They may be referring to:

a) some set of persistence conditions in order to make a claim of Numeric Identity,
b) some set of characteristics in order to make a claim of Character Identity,
c) some particular group with which they strongly identify with, Group Identity,
d) some feature essential to who they are, Essentialised Identity, or (and in common usage, most likely),
e) some combination of any/all of the above.

More generally, when they are saying ‘I am me’, they are making a claim of relative equivalence between ‘I’ and ‘me’. This leaves unexplained how they would come to make such a claim.
Recalling from the cognitive model, §4.2, we have thoughts about thoughts. A person’s Self-Regarding Identity refers to the cognitive frameworks that arise from those sets of things that the person identifies as belonging to them. Given the role of experience in perception §4.3, and the common element of a claim of relative equivalence §4.4, rather than ‘I am me’ a fuller answer is ‘my identity is who I perceive myself to be’. This raises a tension: that which is doing the perceiving is the same as that which is perceived. Secondly, following the experience model of perception from §4.3, the capacity to perceive one’s self changes the observer’s experience set, which changes their cognitive framework, so produces changes in the things that the person perceives as their self. So that which is doing the perceiving is different from the thing perceived.

To resolve this tension, I’ll start by differentiating between the thing doing the perceiving as the ‘I’ and the thing being perceived as the ‘self.’ This idea has precedent:

This I is the subjective sense of our existence. It is different from self-image, the body, passions, fears, social category – these are aspects of our person that we usually refer to when we speak of the self, but they do not refer to the core of our conscious being, they are not the origin of our sense of personal existence…Thus, experience is dualistic, not the dualism of mind and matter but the dualism of awareness and the contents of awareness (Deikman, 1996, pp. 350, 351).

To explain this ‘I’/self distinction, Arthur Deikman asks us to

[s]top for a moment and look inside. Try and sense the very origin of your most basic, most personal ‘I’, your core subjective experience. What is that root of the ‘I’ feeling? Try to find it…Every time you try to observe the ‘I’ it takes a jump back with you, remaining out of sight” (Deikman, 1996, p. 350). This certainly seems like Deikman is repeating David Hume’s recognition that “[w]hen I enter most intimately into what I call myself, I always stumble on some particular perception or other…I never can catch myself at any time without a perception, and can observe any thing but the perception” (Emphases Original, Hume, 1985, p. 300). In addition to Hume, the division between the ‘I’ as knower, and ‘self’ as

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199 This is consistent with ‘equivalence’ from the common element of identity, relative equivalence, developed in §4.4.5.
200 This is a complex claim, and I spell it out in detail in Chapter Six.
201 I point out that my use of the term ‘self’ is different to that of people like Daniel Dennett, whose use of self is more like my use if ‘I’. He states: “For some…the self was a nonphysical soul, a ghost in the machine. For others…, the self was nothing at all, a figment of metaphysically fevered imaginations… for still others…a self was in one way or another a sort of abstraction, something whose existence was not in the slightest impugned by its invisibility” (Dennett, 1991, p. 413). A more detailed description of this ‘self’ is given in §4.6. The purpose here is to focus on a difference between ‘I’ and ‘self’.
202 I say ‘seems’ here, as despite the strong similarity between Arthur Deikman’s example and Hume, Deikman does not reference Hume in his paper.
thing known, presents the ‘I’ as conceptually similar to Immanuel Kant’s noumenon, “that is, of a thing which must be thought not as an object of sense, but as a thing in itself” (Kant, 1934, p. 213).

These two references to Hume and Kant give us pause. Firstly, the concept of identity that Hume was speaking of was identity understood as persistence through time: Hume himself used this inability to identify one’s identity as an argument to the affect that there was no such thing as identity (though likely limited to Numeric Identity).

The second quote from Kant shows that positing of a noumenal self within us, can lead us towards a homuncular regress. As Glover notes (Glover, 1988, p. 89), Kant later refers to “the being that thinks within us” (Kant, 1934, p. 304). The problem of homuncular regress can be found in John Searle’s argument against the ‘consciousness as homunculus.’ Searle begins by highlighting the fact that people can shift their attention and begin actions at will. He asks “[w]ho does the shifting and initiating”, then answers, “[i]t is very tempting to think that there is a little guy in my head who does my thinking, perceiving, and acting. Of course, the homunculus fallacy is a fallacy, because it leads to an infinite regress” (Searle, 2008, p. 146). On the homuncular regress, if there is a little homunculus inside us watching and operating us like a driver of a car, the question that Searle and others raise is, where is the conscious controller in the driver? Talking of an ‘I’, I may fall into an infinite regress whereby a second ‘I’ sits in the first, and so on. Splitting the ‘I’ and the self produces an infinite regress by dividing the identity of a person into both observer and subject and postulating a distinction between consciousness and the self.

However, there are three ways to read the ‘I'/self division: strongly, moderately and weakly. Firstly, in the strong reading, the ‘I’ and the self are actually two separate things. Secondly, in the moderate reading, the ‘I’ and the self are the same thing, but refer to two different aspects of this thing. Finally, in the weakest version, the ‘I'/self division is merely a conceptual device, pointing to two different concepts. I think that the homunculus regress presents a convincing argument against the strong reading.203 I am agnostic whether the ‘I’ and the self are in fact, two aspects of the same thing. The

203 Recall from the introduction of this chapter that I am assuming consciousness. This thesis does not seek to offer any deep understandings of what consciousness is; clearly, that is beyond the scope of thesis. And without having any leaning towards his view, as David Chalmers says “[s]ome say that consciousness is an “illusion,” but I have little idea what this could even mean. It seems to me that we are surer of the existence of conscious experience than we are of anything else in the world” (Chalmers, 1996 xii). So I don’t think it should be specially controversial to assume consciousness, whatever form it takes.
idea being pursued here stands on the weak reading, that any division between the ‘I’ and self is a conceptual division, that is, the two concepts can be divided, irrespective of whether there is such a division in reality.

This of course raises a question of why mention a division between the ‘I’/self at all? Beginning with a conceptual division, the ‘I’ and self are referring to two different concepts. This goes some way to resolving the tension between understanding ‘I am who I perceive myself to be’ as talking of the same things: Does this mean that that which is doing the perceiving changes itself as it perceives its self? In short, yes.

By dividing the conceptual terrain up into the ‘I’ and self, ‘I’ as process of observation, and the self as that which is observed, we can start to explain how identity comes about, and why an identity can be so hard to pin down. Taking the conscious ‘I’ as the starting point, the “self” is simply the human person — as she appears to herself. And whatever thus appears, that is the self” (Brook, 1998, p. 584).204 The cognitive account of identity can describe this development as identity formation, as it is a person’s thoughts about their self that tells them who they are: ‘my identity is who I perceive my self to be’.

However, as most people typically205 develop, the ‘I’ is not merely a passive observer. Similar to Hegelian individuation discussed in §3.3.3, the ‘I’ and the self are fundamentally related, and so what the ‘I’ identifies as self becomes integrated into that ‘I’, and in turn, informs how the ‘I’ perceives the world.206 Recall from the perception discussion that previous experiences can fundamentally influence what and how the world (including the self) is perceived. Through perception of the self, the ‘I’ changes. However, changing the ‘I’ changes how the observer perceives, and so changes the perception of the self: Self changes ‘I’, as ‘I’ changes the self. This relation between ‘I’ and self is mutually causal. I spell out the particulars of mutually causal relations in Chapter Six.

To make this clear, consider this scenario: Thompson is an adult who has always believed that Julie was his sister and Amy was his mother. One day, however, Thompson finds out that Julie is in fact his mother, and Amy is his grandmother. Upon

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204 This is a simplification of Andrew Brook’s view. I talk more about this in §4.6.

205 I say ‘typically’ here, as there are a number of people who do not fit this description.

206 This deliberately mirrors Hegel’s dialectic approach to individuation, introduced in §3.3. In Hegel’s dialectic the “mind has emerged as the Idea that has reached its being-for-self. The object of the Idea as well as the subject is the concept...[T]he concept has, in this externalization, become identical with itself” (Emphasis Original, Hegel and Inwood, 2007 §381, p. 9). The object (self) and subject (‘I’) are both the same thing that become realised by an expression of the ‘I’ through the self, marking the self as something belonging to the ‘I’, in contrast to those things marked ‘not-self’, so identified as some ‘other’. 110
finding this out, Thompson’s understanding of himself is bound to change, perhaps dramatically. He, as a cognitive being, had perceived himself in one way, finds out this information about his relation to his biological mother, changing not only how he perceives Julie and Amy, but how he perceives himself. Following this change in how he perceives himself, it will likely affect how he perceives the world: this new information about his self changes Thompson’s understanding of who he is, it changes his ‘I’, which changes how he perceives the world, ultimately changing his perception of his self. Past experiences change how humans think about the world. In terms of Self-Regarding Identity, the thoughts we have about our self will change how we perceive our self. By dividing this iterative process into ‘I’ and self, we can see how each aspect can influence each other. Put simply, the thoughts that the ‘I’ has about it’s self, will change the thoughts that the ‘I’ has about it’s self.

Identity – produced by an observer perceiving relation of equivalence – is a cognitive process in that the relation of equivalence is a set of thoughts about thoughts. Taking into account the role of past experience in perception, we can begin to see identity not as a single stable thing, but as the constantly evolving result of dynamic cognitive processes, arising from the dialogue between an ‘I’ that is perceiving the self, and of the self as forming the epistemic foundations from which the ‘I’ perceives. This is close to a dialectic methodology, like that of Hegel.

So, there is an ‘I’, a self, and some relative equivalence between them. On all but the Essentialised Concept of identity, the ‘relative’ part of the perceptual relation is unexplained, so far. Like personhood and intimacy discussed in §2.3.1 and §2.3.2, some things are going to be more important to self-development than others. To explain this, let us start with a simple quote: “A person’s identity is constituted by a configuration of central traits” (Emphasis Mine, Rorty and Wong, 1990, p. 19). Rorty and Wong clarify what they mean by central traits; “We are focussing on traits that typically make a systematic difference to a person’s life”, and they then note the potential for variation in these traits, as “[t]he kinds of traits that form identity vary culturally, across class and gender lines, and indeed, individually” (Rorty and Wong, 1990, pp. 19-20). This idea of

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207 In order to step around terms of art like a ‘Hegelian Dialectic’ or ‘Kantian Dialectic’, which carry with them a deep set of investigations and histories, I prefer to use the term ‘dyadic relationship’. I spell out what I mean by a dyadic relationship in Chapter Six.

208 Such dialectic methods were not wholly and solely Hegel’s province. Kant, for example, had an ‘implied dialectic’ relevant to this ‘I’/Self dialogue in which “there can be no existing things, no factual reality, that is not constituted by the forms available to us; factual relating is mediated by these forms...Conversely, however, the forms are in their turn mediated by existing reality” (Adorno, 2001, p. 87).
central traits plays a major role in Bernard William’s discussions of identity, which he first mentioned as a problem for integrity in the face of utilitarianism (Williams, 1973 - 118) and then developed in Persons, Character And Morality, where he states “the idea that an individual person has a set of desires, concerns or, as I shall often call them, projects, which help to constitute a character” (Emphasis Original, Williams, 1981b, p. 5). A similar point is found in Jonathan Glover’s statements on beliefs and identity:

We define ourselves partly by our distinctive beliefs about the world and about how to live...No matter how absurd, any belief can be preserved if you are prepared to make sufficient adjustments in the rest of the system...Sometimes [these] beliefs are part of our identity in a quite explicit way (Glover, 1988, pp. 154, 155, 157.)

Mirroring the cognitive account of identity, Christine Korsgaard’s ‘practical identity’ postulates that essential to human identity is not merely that we have these central projects etc. but that we reflectively endorse them (Korsgaard, 1996, pp. 100-102), in short, identity is not merely the traits, but our thoughts about those traits. This begins to mark the importance of identity processes to things like personhood and intimacy, and contributes to the discussions of privacy and ownership.

Yet, as was seen in the discussion of Numeric Identity, §4.4.1, our identities change through time (Perry, 2008a). In much the same way, our Character Identity can (and should) change through time. In After Virtue, Alasdair MacIntyre developed a narrative account of identity where our identities are understood not as a set of independent facts but as a series of interlinked and dynamic stories about ourselves and our cultures (MacIntyre, 2008, pp. 204-225). Further to this, our identities do not only change with time, but within context; contexts like a social role are important to human identity (Rorty and Wong, 1990, pp. 22-23): The traits that I express as a tutor teaching 1st year philosophy students might be quite different to the ones I express as PhD student having a meeting with my supervisor: in the first situation I might be authoritative and confident, deeply assured of my skill set and knowledge, while in the second situation, I may be pliant and anxious, totally convinced of my ignorance and lack of skill as a philosopher. Yet which of these traits constitute the real me? Or is it both of these sets? Or is it the ‘ideal self” that I wish myself to be (Rorty and Wong, 1990, pp. 23-24)? The point of all of this is that reference to a set of central traits does not immediately get us closer to recognising the importance of identity.

Recall Hegel, from Chapter Three. Hegel’s account of personality had it that we become persons through individuation; by expressing our will in a series of different objects, including our bodies, we develop a personality. For him, this was the essence of
liberty “A person has as his substantive end the right of putting his will into any and every thing and thereby making it his, because it has no such end in itself and derives its destiny and soul from his will. This is the absolute right of appropriation which man has over all ‘things’” (Hegel, 1967 §44, p. 52). Developing a similar account for identity, Harry Frankfurt offered a wilful identification with particular traits as an indication of the person’s Character Identity.

Becoming responsible for one’s character is not essentially a matter of producing that character but of taking responsibility for it. This happens when a person selectively identifies with certain of his own attitudes or dispositions...In identifying with them, he incorporates them into himself and makes them his own (Emphasis Original, Frankfurt, 2006, p. 7). Similar to Hegel, Frankfurt considers that identity is the expression of the person’s will “It is in securing the conformity of his will to his second-order volitions, then, that a person exercises freedom of will” (Frankfurt, 1971, p. 15). Frankfurt’s account is less concerned with a set traits that makes us who we are, but rather how we identify with those traits: I might be totally dependent upon heroin, for example, but what separates me from a wanton addict is my desire to distance myself from that addiction (Frankfurt, 1971, pp. 11-13). Again, my identity is not shown merely or simply by particular traits, but how I identify with and value those traits. As Korsgaard says, one’s identity is best “understood as a description under which you value yourself, a description under which you find your life to be worth living and your actions to be worth undertaking” (Korsgaard, 1996, p. 101).

Central traits are important to self-development, but to make greater sense of this, we need to see how the person responds to these traits, whether they identify with the traits or whether they reject them. It is how a person reacts to their self that we recognise their identity, thoughts about thoughts.

A description of Self-Regarding Identity must be able to capture relations between the ‘I’ and the self, whilst allowing for changes in both the ‘I’ and the self and must be able to accommodate differences between central and non-central traits. Saying that self-regarding is ‘I am who I perceive myself to be’ covers all these requirements. Putting this more generally, I hold that Self-Regarding Identity occurs when ‘I perceive myself to be me’. Replacing ‘I’ with X, ‘myself’ with Y and ‘me’ with Z, we have ‘X perceives Y to be Z’.
4.5.2 Other-Regarding Identity: You Are Who I Perceive You To Be

The second aspect of identity is other regarding identity, or ‘who I perceive you to be’. A great portion of my discussion so far has been concerned with perception and the subjective components of identity that arise from each conscious person having a unique private experience of the world.

Taking a closer look at the two way model of perception described in §4.2, the FFP and RHT involve two sorts of identifications to occur in the mind of the observer. Recall that the FFP uses incoming information from sense modes like the eyes, ears etc. to get fine grained detail of the subject of observation. The RHT process rapidly tracks the incoming information to the observer’s existing cognitive frameworks, to access the generalised and abstracted concepts that are used as rapid generalised identifiers. I have so far only discussed the formation of identity as a first-person subjective experience: That is, that the identity constructed occurs only in the mind of the observer. Yet it must be obvious that the subject of observation has an identity that exists prior to, and independent from, any observer.

In presenting identity as a cognitive construct, it may seem that I am presenting an ‘identity of idealism’, an idealism of the kind offered by Bishop Berkeley in which he sought to “prove that there is no such thing as matter at all, and the world consists of nothing but ideas” (Russell, 1912, pp. 12-13). Yet, as Bertrand Russell points out, Berkeley’s problem was that he confused “the thing apprehended with the act of apprehension” (Russell, 1912, p. 42). So, to get a fuller account of identity than an ‘identity of idealism’, I will look to the thing apprehended, by discussing the epistemic basis for identification and then integrate this with the subjective account of identity.

“Epistemological questions about identity can be expressed by asking how identity judgments, or identity judgments about object of such and such a kind, are…known” (Shoemaker, 1963, p. 3). Put another way, how does an observer make an identity judgment about a given subject? Upon what basis does the observer claim to know that a subject, \( Y = Y \)? The answer is that the observer will have some belief or set of beliefs upon which they are basing their identity judgments. The basis for these beliefs can be found by tracking to facts in the external world,209 and so are open to discussion – that is, when people disagree, the truth of a claim can be determined. “Some statements can be known to be true or false independently of any prejudices or

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209 I am making epistemological claims about the truth of the world, and how we get access to it. I give a more detailed account of how I use truth and knowledge in §6.5.
attitudes on the part of observers” (Searle, 1997, p. 113). This sort of statement reflects John Locke’s ‘primary qualities’ of bodies, when Locke says

the Ideas of primary Qualities of Bodies, are Resemblances of them, and their Patterns do really exist in the Bodies themselves; but the Ideas, produced in us by these Secondary Qualities, have no resemblance of them at all...what is Sweet, Blue or Warm in Idea, is but the certain Bulk, Figure, and Motion of the insensible Parts in the Bodies themselves, which we call so (Emphases Original, Locke, 1975, p. §15).

However, it does not necessarily follow that we cannot speak of truth claims, merely because we may only have indirect, subjective apprehension of a given thing.

Searle makes a distinction between those things that are epistemically objective and those things that are ontologically subjective. “Some entities, mountains for example, have an existence which is objective, in the sense that it does not depend on any subject. Others...are subjective in that their existence depends on being felt by a subject” (Searle, 1997, pp. 113-114). Like the Necker Cube from §4.3.1, eye defects aside, two people may construct different identities for the mountain, it is uncontroversial to say that (a) the mountain exists, and (b) the observers (or their eyes at least) receive the same visual information. No doubt what happens for each observer in the identity construction is going to be influenced by the two observer's perceptions of the mountain. But, as Searle points out, the mountain’s existence is not dependent upon an observer. As such, entities that exist in the external world, mountains, rocks, puppies and people, exist prior to observation, and these entities have properties that are potentially observable.

Going back to the earlier discussion on perception, the observer receives information about a given entity via their sense organs and this information is parsed into sense data that is received at finer and finer detail, potentially down to the level of individual neurons. This is the essence of the afferent stream in FFP. So, following the FFP model, the observer will receive information about a given subject that then converges through computational hubs to produce an emergent identity in the mind of the observer. When observing another person, the observer will likely receive information about the person’s body, their face, their mood, their voice and other things. At the same time, as the RHT explains, the observer may likely have an

210 This reference to Locke’s resemblances should not be taken as an endorsement of the theory that he proposed. As Sterelny notes, the theory of resemblance to explain mind-world relations is problematic (Sterelny, 1990, p. 112).

211 Note that I have not included any discussion about sensory inputs of smell, taste or touch. I do not wish to deny the importance of these inputs in an observer’s construction of another’s identity, or of self.
existing set of information about the person being observed, an integrated information set formed from previous experiences.

For people as ‘the thing apprehended’, there are main two types of fact claim, with a loose distinction between the two – the physical and the historical. We identify people on both physical and historical accounts. Consider the identity of a close friend. How does an observer know that this person in front of them is in fact their friend? The answer is obvious: ‘This person looks like my friend, they talk like my friend, they act like my friend and they know things about me that only my friend would know.’ That is, the physical properties like their face, body, voice etc. are consistent with the observer’s existing cognitive framework. How the friend acts and what they say needs to match what the observer knows of the friend:

Our identity judgments about persons other than ourselves are most commonly based on similarity of bodily appearance…But there is no doubt that our grounds for making identity judgments about other persons sometimes involves psychological considerations. I might know that this twin is John, not Tom, because he is lively and good humoured. Better still, I might know that this is John because he remembers…events that happened yesterday while John was present and Tom was not (Shoemaker, 1963, pp. 20-21).

Like the dynamic between the FFP and the RHT, the criteria that an observer uses to determine the identity of a subject will likely be physical first (FFP-like processes). As the cognitive framework specific to the given subject expands (RHT-like processes), behavioural cues and historical facts will play a greater role in constructing and maintaining an identity for the friend: such a claim of relative equivalence involves assumptions of Numeric Identity and Character Identity, influenced by Group Identity.

Note also that the historical facts do not necessarily have to be those facts of shared experiences. Essential Identities are often central to human interactions. Consider how a subject can be identified by a stranger – that is, how an observer can identify a subject not familiar to them. The observer may use identity candidates of a historical type like a name, birthdate, signature, PIN etc. to access or verify the subject’s identity. These candidates for identification are contingent historical facts that cumulatively produce an historical information set about a given subject and are likely to be used extensively in identification of strangers. These contingent historical facts are, like the physical properties of a person, truth verifiable. That is, they produce the epistemic basis upon which observers base and build the identities of others.

Rather it is that the discussion of these senses should suffice to flesh out the neuroanatomical basis for perception, and in identity construction.
I introduced this subsection by pointing to a tension between claiming that ‘a person’s identity is who X perceives Y to be’, and the idea that there are facts about a person. I can explain this tension away by going back to my earlier discussions of the two way model of perception and the dialogical and dynamic nature of identity construction. Firstly, following the FFP, initially the Other-Regarding Identity will be based upon those properties of a person that have an epistemically objective basis – we form an Other-Regarding Identity using a complex of Numeric and Character Identity concepts, such as how the person looks, sounds, and what their unique history is. As an observer builds up a knowledge set for a given subject, the RHT will produce more rapid identification via higher level abstractions than was initially used. Each time an observer meets their partner, they don’t need to remember what their partner looks like, or any contingent facts about their partner.

Secondly, we must recall that the higher level abstractions are always amenable to updating with new information: relations of relative equivalence are dialogical and dynamic. The relation between FFP and the RHT allows for new information to update or replace the old. The identity that an observer has for a given subject is an integrated one that is dynamic and responsive to epistemically verifiable objective considerations.

But what happens when the observer’s existing cognitive framework and the incoming epistemically verifiable information don’t match? In section §4.3 I said that the two way model of perception tells us that the FFP is re-engaged to gain more fine grained details. But this does not solve the problem of how two conflicting facts are dealt with by the cognitive model of identity. To explain this, I will start with a simple example and then move into more complex examples.

Recall Harry and his sister Sally from §4.3.2. Suppose that as they talk, she tells Harry that she has learned that she was adopted. Despite the simplicity of this fact, there is no doubt this will take a great deal of time and effort for Harry to process: While an abstracted set of ideas may easily take in the data that Sally has different parents to Harry, this sort of historical fact can have profound effects upon how Harry perceives Sally and most probably the ways that Harry perceives himself. Recall from §4.5.1 that the important aspects of Self-Regarding Identity are the “configuration of central traits” (Rorty and Wong, 1990, p. 19). For a host of possible reasons,212 one’s genetic parents are often seen as one set of these central traits.

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212 Some of the issues surrounding genetic relatedness and parent-child relations are discussed in (Kolers, 2003; Kolers and Bayne, 2001).
The final point to be made is that epistemically verifiable claims are an essential element to the construction of any identity. It would be wrong to state that an observer perceives another in a purely subjective sense. The Other-Regarding Identity that is perceived by an observer is partially caused by, and is reactive to, the external world. What I mean to capture by Other-Regarding Identity is to state that there is an objective component to how an observer constructs the identity of a subject, which is not to say that the objective factors are all that happens in identity construction. The cognitive account of identity developed so far is influenced by the observer’s thoughts, beliefs and experiences. Yet this does not clarify how these thoughts, beliefs and experiences come about nor how they are valued and integrated. Other-Regarding Identity, particularly the truth verifiable aspects, go some way to filling in the objective processes, showing that identity is more than a Berkeley-like idealism.

With this in mind, when answering a question of who someone else is, an observer can sensibly claim a relation of relative equivalence by saying ‘your identity is who I perceive you to be’. Note again that this general type of Other-Regarding Identity covers all four of the general identity concepts introduced in §4.4, whilst making the subject of such a claim different to the general account of Self-Regarding Identity, presented in §4.5.1.

4.5.3 Other/Other-Regarding Identity: He Is Who I Perceive Others Perceive Him To Be

The final aspect of identity is what I call Other/Other-Regarding Identity. This is especially concerned with how a primary observer, X perceives the construction of identity for a subject, made by a second observer, X*, given as ‘X perceives another, X* to perceive Y to be Z.’ The basic point is that humans will construct identities for others not simply based on their own personal experiences, and not simply based on objective factors, but also on how they think others perceive the subject. Two simple ways of describing this are ‘any friend of yours is a friend of mine’ and ‘the enemy of my enemy is my friend’. In short, an observer’s attitude to Y is affected by what they think X*'s attitude to Y is. This section captures an important aspect of identity construction, that the relations of relative equivalence humans make for a given subject are impacted by how they think others think of that subject.

To explain, consider that humans are distinct from many other animals in that humans have a capacity not only to recognise others and form relations with them, but
also that humans can also recognise the relations that exist *between* others that do not necessarily involve the primary observer.

Most mammals are sensitive only to the social relations second parties bear to them. They register the fact that they outrank, or are outranked by, another. They are sensitive to the fact that another animal is their mother, their sib, their offspring, unrelated, a stranger...But it does not include how others stand to one another. In contrast, primates register and respond to third-party relations (Sterelny, 2003, pp. 51-52).

The basic point is that different to many animals, humans can recognise the relations that exist between other people. In contrast to an animal like a chicken in a pecking order or a dog in a pack, humans can recognise social relations within a group even if they are not a part of that group.

The relevance of this observation is that humans have evolved to recognise not only individuals but how others relate to individuals. In fact, this ability to recognise the social position of others may be a central element of our social evolution. As Sterelny argues, a ‘cooperation explosion’ within human social groups was an essential element to our rapid evolution (Sterelny, 2003, pp. 123-145). On a similar line of reasoning when discussing the role of reciprocity and recognition in human evolution (Joyce, 2006, pp. 88-92), Richard Joyce argues that language may have originally developed in part to express judgment about others:

Our ancestors didn’t just want to *describe* the fact that someone failed to reciprocate; the purpose of their gossip was that others could be *criticized*...we come to the conclusion that an important evolutionary function of language is to convey certain types of social evaluative content” (Emphasis Original, Joyce, 2006, pp. 91-92).

So, we have recognition of individuals, not merely as individuals, ‘this person in front of me is Quinn’, but as individuals located in a social hierarchy, ‘this person in front of me, Quinn, is a bad person’.

The outcome of this is that humans have the capacity to recognise how a group values an individual. The other/other component of relative equivalence takes into account not the objective facts about a person, discussed in section §4.5.2, but intersubjective assessments about that person. These intersubjective components of identity are less involved with epistemically objective facts and more involved with the inter-personal values that can come bundled or ‘nested’ with the objective facts.213 As such, the other/other components of identity align, in part, with Group Identity. An

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213 Fred Dretske talks about nested information, “whenever s is F, t is G...then no signal can bear the message that s is F without also conveying the information that t is G” (Dretske, 1981, p. 71). I consider Other/Other Identity to involve this sort of composite information.
important point to note here is that this intersubjective value is from the observer’s subjective view point: the intersubjective value that the primary observer, $X$, ascribes to $Y$ is dependent on the primary observer’s perception of how secondary observers, $X^*$, value $Y$, not necessarily how $X^*$ actually values $Y$.

Following from section §4.5.2, it is uncontroversial to state that objective facts like physical attributes of a person will play a fundamental and major role in how people identify others, and thus are involved in the process of identity construction. It should also be reasonably uncontroversial to state that objective facts can also carry with them other aspects that come into play when an observer forms an identity of a subject. Consider Jenny, when she meets Fred for the first time. No doubt Jenny will recognise that Fred is male. The fact of his sex\(\text{gender}\) will be one of the objective facts about Fred that Jenny uses in constructing her identity of Fred. Yet her formation of Fred is not simply a composite of different objective facts, it is more complex than this: The objective information about Fred is not inert.

While a person’s sex\(\text{gender}\) may be an objective fact, there are often a host of social aspects that are strongly associated with sex\(\text{gender}\): intersubjective components derived from a perceived value about a given objective trait or set of traits. The observer may be more or less conscious of these associations. To support this claim, consider the studies that indicate that parents treat infants differently, based on the perceived gender of the infant, (Lewis and Brooks-Gunn, 1979, pp. 267-269). This differential sex\(\text{gender}\) treatment is one example that there is more included in identity construction than just the integration of objective information into an observer’s cognitive frameworks. What is this additional component and where does this additional component of identity come from? Simply put, this is an intersubjective component that is formed through the interactions between people. I call this the Other/Other-Regarding Identity.

Consider again Jenny and Fred. Jenny meets Fred for the first time, and as part of the strong human tendency to observe, identify and ultimately recognise,\(^{214}\) Jenny observes a set of information about Fred. She observes is that Fred is male. This recognition of another’s sex\(\text{gender}\) will likely have influence on Jenny’s identity.

\(^{214}\)This is perhaps a controversial claim, to say that there is a strong human tendency to observe, identify and recognise. However, given the strong neurological evidence that neonates and infants can recognise particular human physical traits, (Cassia, Kuefner et al., 2009; Elsabbagh, Volein et al., 2009; Farroni, Csibra et al., 2002; Meltzoff and Moore, 1997), it would seem that as recognition of other human’s physical traits happens so early in individual development, that the tendency to observe, identify and recognise is strong.
construction for Fred, evidenced\textsuperscript{215} by differential treatment based on sex\textbackslash gender. Though it may be slightly controversial to say that Jenny will treat Fred in a predictable way, based upon the epistemically verifiable fact of his being male, there is evidence to support the claim that sex\textbackslash gender recognition will alter how an observer treats a subject. Interestingly, these differences in treatment seem to be somewhat independent of the gender of the observer (Brennan, 2009, p. 143). What is more controversial is to predict \textit{how} Jenny will treat Fred differently, say compared to his sister Freda – Jenny may treat Fred worse or better than Freda. The point being made here is that the recognition of a subject’s sex\textbackslash gender by an observer will typically have an effect upon the observer’s treatment of that person.

Underpinning Other/Other Regarding Identity is a relatively uncontroversial claim: humans have the capacity for evaluation. This can be based on simple ‘folk psychology’, where we ascribe beliefs and desires to others in order to explain behaviours that seem similar to our own. Folk psychology is the process where

\[\text{the average person is able to explain, and even predict, the behavior of other persons with a facility and success that is remarkable. Such explanations and predictions standardly make reference to the desires, beliefs...to which the agents are presumed subject (Churchland, 1981, p. 68).}\textsuperscript{216}

The relation between having a capacity for evaluation and folk psychology is that folk psychology assumes that other people have beliefs and desires. From this it would seem uncontroversial to say if someone has a thought about something like an ice-cream, that thought can take the form of a belief ‘I believe that is an ice-cream’, or a desire ‘I desire that ice-cream’. In both cases, belief or desire, the person is making an evaluation about the ice-cream, that it \textit{is} an ice-cream or that the ice-cream \textit{is} desired. “It is part of the folk picture that thoughts have content. A preference is satisfied or not satisfied. A belief is true or false. A belief is about something” (Sterelny, 2003, p. 7).

Note two things about this. Firstly, that these claims about evaluation do not mean that all beliefs and desires, much less all thoughts are \textit{necessarily} evaluative. Rather, that people have this capacity for evaluation. This is a basic upshot of the model of cognition proposed, thoughts about thoughts, where the secondary thought is a belief

\textsuperscript{215} Samantha Brennan, for example, discusses gender based differential treatment of individuals, with examples ranging from the time taken to get a served in a coffee shop, to studies that show that “having a female-gendered name on an academic curriculum vitae costs candidates in a process of peer evaluation, both for hiring and for promotion and tenure” (Brennan, 2009, p. 142).

\textsuperscript{216} It should be noted that this quote from Paul Churchland is taken from a paper where he argues \textit{against} folk psychology in favour of eliminative materialism; “folk psychology is a radically inadequate account of our internal activities, too confused and too defective to win survival through intertheoretic reduction” (Churchland, 1981, p. 72). However, Churchland’s arguments do not necessarily defeat folk psychology, a point argued by Frank Jackson and Philip Pettit (Jackson and Pettit, 2004), amongst others.
or desire about ice-cream. The way I use evaluative state is to denote a thought about ice-cream. Secondly, from §4.1, I am assuming something like the language of thought hypothesis, where the thoughts that I am interested in are typically propositional attitudes. “Propositional attitudes are the thoughts described by such sentence forms as ‘S believes that P’, ‘S hopes that P’, ‘S desires that P’, etc., where ‘S’ refers to the subject of the attitude, ‘P’ is any sentence, and ‘that P’ refers to the proposition that is the object of the attitude” (Aydede, 2010).

Relating the Other/Other-Regarding aspect to evaluation, humans have the capacity to recognise (or at least presume) the status of an individual within a social group independently of whether that observer is part of the social group or not. The role that folk psychology plays here is the observer of the social group ascribes a particular value of that individual based on how that observer perceives the individual’s hierarchical location. As we saw, both Sterelny (Sterelny, 2003, pp. 123-145) and Joyce (Joyce, 2006, pp. 88-92) argued not only that we can recognise in-group dynamics, but that this is a central facet of human evolution, and ultimately, one of the fundamental facts about our cognition that separates us from many other animals. The importance of evaluation is that not only can humans recognise the way group members treat each other, but as individuals, humans can and do form opinions about others. Putting these two observations together, it should not be controversial to say that the evaluations an observer makes about others influence the thoughts that the observer has about that individual. In short, Other/Other Regarding Identity is important for how people treat others. On the cognitive account of identity, one of the key roles that the Other/Other Regarding aspect plays in identity construction is to have value-ascribing thoughts about an individual, with those values arising from the way in a particular society values, or is perceived to value, that individual.

A more general point being also made is that the construction of a person’s identity is neither psychologically nor socially inert: Seemingly objective facts like a person’s sex\gender can often carry with them a set of values or additional information that influences how the observer constructs the identity of the subject, and those values have their origin in how society at large is seen to value that person or group. A way of stating this Other/Other-Regarding Identity is to say that ‘identity is who I perceive others to perceive you to be’
4.5.4 Spelling Out The General Account Of Identity: X Perceives Y To Be Z

Following the discussion of the three components of a cognitive account of identity, I can now present a general account of identity: When making an identity claim an observer, X, perceives a subject, Y, to be relatively equivalent to Z. Given that this is an identity claim, the reference to relative equivalence is redundant. So a general identity claim becomes ‘X perceives Y to be Z’. Written differently, ‘Identity (Z) is who X perceives Y to be’: I will attempt to use the prior formulation, however, to make the phrase sensible to common English, I may sometimes use the latter different formulation. This section explains what I mean by the general account, and gives some of the reasons for developing this account of identity.

This general account has five elements; ‘X’, ‘perceives’, ‘Y’, ‘to be’ and ‘Z’. I will explain my use of each in turn.

X – X refers to the observer making the identification. The cognitive states of the observer, X, can change, and as has been mentioned, it is assumed in this account that X is a conscious human person.

Perceives – The issues of perception and experience have been discussed in §4.1-§4.3. In short, identifications involve transformation of sensory inputs into something that the observer can use. This will likely be a complex representation, arising from the dual processes of FFP and RHT.

Y – Any use of identity needs a subject of identification. Whether this is a person, or a thing like the Necker Cube, there needs to be something that is being identified. In situations involving Self-Regarding Identity, the ‘I’ as conscious observer (X) is conceptually distinct from the self as subject (Y).

To Be– This is to be understood as the observer perceiving relative equivalence between two or more things. It is sensible to say ‘I perceive Elvis to be the singer of ‘Hound Dog’. The observer, X, is making some claim about Elvis, Y, to be relevantly equivalent to the singer of ‘Hound Dog’. The reason for X making such a claim is that X perceives Y to be relevantly equivalent to Z. This ‘to be’ is a knowledge statement based upon the observer’s existing cognitive framework. It presupposes is that X has a relevant cognitive framework used to identify Y. This may be reduced to something as simple as ‘Y is different from ¬Z.’ For example, if John meets someone for the first time, he may identify the person as ‘not anyone that I have ever met before.’ i.e. Y

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217 This general account could also be written as ‘Identity (Z) is what X perceives Y to be.’ However, given that the focus of this thesis is on people, ‘Identity (Z) is who X perceives Y to be’ has been chosen.
(John’s newly met person) is ¬Z (where Z is every person that John has met before). In the case where John already knows and meets Jim, we have an instance of John re-identifying X as Jim, through his previous knowledge of Jim.

Z – As a result of a set of mental processes, the observer, X, has some experience, either conscious or sub-personal, of Y. This experience is Z. Given the complexity of mental processes, this Z might be the result of FFP, some abstract mental representation as in the RHT, a combination of both, a memory of similar experiences etc. Z is intended to capture the cognitive aspects of making claims of relative equivalence: Z emerges\textsuperscript{218} from thoughts about thoughts arising from perceiving Y. Note that this Z can be a definite or indefinite claim. That is, consider an observer looking at a photo of Elvis Presley performing on stage. It is equally sensible to state ‘X perceives Y to be Elvis Presley’ or ‘X perceives Y to be a rock singer’, or even ‘X perceives Y to be a white male human’, where Z can equally refer to ‘Elvis Presely’, ‘rock singer’ or ‘white male human’.

Given these five aspects, the general formulation of identity is ‘X perceives Y to be Z’.

To see how the general account relates to Self-Regarding, Other-Regarding and Other/Other-Regarding Identity, recall that when thinking about themselves, the observer can be understood as claiming that ‘I (X) perceive myself (Y) to be me (Z)’. Likewise, to make a claim of Other-Regarding Identity, the observer can be understood as claiming that ‘I (X) perceive you (Y) to be my sister (Z)’, or in cases of indefinite claims, ‘I (X) perceive you (Y) to be a female (Z)’. In cases of Other/Other-Regarding Identity, the observer can be understood as claiming that ‘I (X) perceive another (X*) to perceive you (Y) to be my sister (Z)’, or in cases of indefinite claims, ‘I (X) perceive another (X*) to perceive you (Y) to be a female (Z)’. Recalling the description from §4.5, the general formulation allows for the claim of relative equivalence to relate to any of the four identity concepts from §4.4:

\textbf{Numeric Identity}: ‘I perceive \textit{myself} to be \textit{the same person I was yesterday}’,

\textbf{Character Identity}: ‘I perceive \textit{myself} to be \textit{a funny guy}’,

\textbf{Group Identity}: ‘I perceive \textit{myself} to be \textit{a Christian}’,

\textbf{Essentialised Identity}: ‘I perceive \textit{myself} to be \textit{employee #5425777}’.

This can be converted to Other-Regarding Identity, with Numeric Identity being: ‘I perceive \textit{you} to be \textit{the same person as you were yesterday}’ and so on. For Other/Other-

\textsuperscript{218} Emergence is covered in §5.7.
Regarding Identity ‘I perceive Brian to perceive you to be the same person you were yesterday’ and so on.

In summary, this section has discussed three different aspects of identity, Self-Regarding, Other-Regarding and Other/Other-Regarding. A general account of identity was presented, ‘X perceives Y to be Z’. These elements of identity, thought described separately, bear upon each other. By developing a cognitive account of identity, as a dynamic set of thoughts about thoughts, not only does the cognitive account seek to explain that there are different aspects to identity, but this account also seeks to bring the different aspects together in a way such that each aspect is causally relevant to the others. We not only rely on the different aspects to construct identities, but in many situations, individuals may actually need all three aspects to form a stable identity. In short, a full identity is likely to be an integrated set of thoughts, constructed from the Self-Regarding, Other-Regarding and Other/Other-Regarding aspects of identity.

4.6 Setting Limits On Identity

Korsgaard says

[T]here is no you prior to your choices and actions because your identity is in a quite literal way constituted by your choices and actions...When you deliberately decide what sorts of effects you will bring into the world, you are also deliberately deciding what sort of cause you will be. And that means you are deciding who you are (Emphases Original, Korsgaard, 2009, p. 19).

There is a need to explain how this ‘you’ could originate.\(^\text{219}\) In a similar way, saying ‘I am who I perceive my self to be’ invites a similar concern stemming from self-constitution. That is, where does this self start? Secondly, where does this self end? §4.6.1 looks at how humans begin self-construction and §4.6.2 then questions the limits of self-construction. Repeating what was said in §4.2, I am assuming the capacity for consciousness; I assume that there is an ‘I’ which has the capacity to perceive the world. The problem is how this capacity for perceptual experience limits identity.

4.6.1 Where Does The Self Start?

What follows is a suggestive description of a self can originate, based on three mental capacities;\(^\text{220}\) experience, agency and unity. This is somewhat speculative, and will need

\(^{219}\) Christine Korsgaard’s response, that identity should be seen as a process or activity, rather than a state, corresponds to my discussion in §4.6.2.

\(^{220}\) Each of these mental capacities involve reams of discussion. However, given space constraints, I can only stipulate that we have the capacity for them, and give a rough description of each and propose how they relate to self-construction.
to gloss over large set of work in philosophy of mind. However, I hope this gives
enough of discussion to indicate some way in which a self can come into being.

We begin with the capacity for experience. On Galen Strawson’s account, the
self is “specifically, a mental presence; a mental someone; a single mental thing that is a
conscious subject of experience...It is crucial that it is thought of as a distinctively
mental phenomenon” (Emphasis Mine, Strawson, 1997, p. 407). Andrew Brook writes:
“To be directly aware of myself as a self, I must have the kind of awareness of myself
that I get when feeling desires, thinking thoughts, having perceptions, etc.” (Brook and
Akins, 2005, p. 584). The basic point is that the talk of a self-consciousness presumes a
human capacity for experience. While both Strawson and Brook’s accounts of the self
are concerned with the conscious agent, rather than what the agent is conscious of, the
point of human capacity for experience holds.

This capacity for experience can occur in two rough ways, as subject and as
agent: A human is at the same time the subject of experience and a wilful agent
(Tsakiris, Prabhu et al., 2006). We not only experience the world through a host of
processed information, but also experience the world as something that we are active in:
I see my hand in front of me, and can close my eyes, turn my head or move my hand.
This does not presume that we actually are agents: on this description, it is not
necessary for us to be the source of a given intention.221 Rather, what is needed is that it
feels like we are the source of the intention, such that we feel like a wilful agent.
Agency, or the experience of it, is the second mental capacity I consider relevant for
identity formation.

A third factor is unity. “All conscious experiences at any given point in an
agent’s life come as part of one unified conscious field” (Emphasis Mine, Searle, 2000,
p. 561). Much has been written on this,222 debating different concepts, conceptions and
elements of what something like a unity of consciousness is, how it works etc. Whether
unity brings about consciousness, or whether unity is the result of consciousness, one
need only look at the problems of brain bisection223 etc. to see how a lack of unity can
be problematic to normal human functioning.

Combining these three elements – experience, agency and unity – we see that
humans have the capacity to unify synchronic events: events that happen at the same

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221 By saying this, I mean to step aside from discussions of free will, epiphenomenalism and mental
causation. The minimum condition needed is the feeling of agency, rather than actual agency.

222 For a brief list, see (Bateson, 1979; Chalmers, 1996; Christman, 2004; Churchland and Sejnowski,

223 See, for example, Glover, (Glover, 1988, pp. 32-46).
time are integrated (Strawson, 1997, pp. 412-416). From infancy, a human learns that they are a conscious embodied agent through ‘body babbling’ and time-locked sense modalities (Clark, 2008, pp. 17-18). An infant learns to know that the pinkish thing waving in front of its eyes feels something thing at the same time as it grasps objects. Sight and touch co-occur and are integrated. Further to this, the infant gradually learns that this pinkish thing, its hand, can be exercised through willing it to move. By integrating these occurrences together, repeating them and changing different parameters, infants gradually learn not only how to control their own movements, but also what counts as ‘self’ and what counts as ‘other’. Going back to §4.4.5, an infant learns that there is relative equivalence between itself as subject and itself as agent: the subject and agent are unified.

As it learns and develops, the growing infant begins to experience a sense of the self as persisting through time: that past event is happening again. As the infant learns, they begin to develop the capacity for anticipation: the present self can extend its thoughts into the future (Barsalou, 1999, p. 587). Now there is a realisation of relative equivalence between the past, present and future self. Like Numeric Identity from §4.4.1, and in line with the need to individuate introduced by Hegel in §3.3, the human agent unifies past, present and future experiences, with the ‘I’ as the point of reference (Glover, 1988, pp. 62-68). Further, through feedback, the developing human learns to unify the will with consequences. If a human agent wills that its arm moves, it moves. If there is a will to grasp the cup, the agent can drink its contents and so on. Now we have relative equivalence between intentions and outcome of intentions: this forms an essential aspect of Character Identity: to know that ‘I’ am responsible for a given consequence.

Finally, the ‘I’ and self are relatively equivalent: the human develops a full sense of self through unifying itself as the target of subjective experience and (feeling like) the

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224 I mean here to refer in particular to Strawson’s observation “that the mental self is standardly thought to be single in the two ways just characterized both when it is considered (3) synchronically, or as a thing existing at a given time, and when it is considered (4) diachronically, i.e. as a thing that persists through time” (Strawson, 1997, p. 413).
225 ‘It’ is used deliberately used here to show that the boundaries between ‘it’ as the arm, ‘it’ as the agent and ‘it’ as the agent’s will, are very unclear.
226 My use of ‘responsibility’ here is deliberately vague, and is intended to imply that a child will move from recognition of causal responsibility to moral responsibility. This is admittedly a very thin conception of responsibility. For a more nuanced account of different responsibility types and their relations, see (Vincent, 2011).
227 This is the sort of thing covered by Lawrence Kohlberg’s six stages of moral development (Matthews, 2010, p. §3). Naturally, I recognise the problems of his account, like those concerns raised by Carol Gilligan.
source of wilful experience. At later stages of maturity, the human begins to extend its narrative beyond directly lived personal experience to become more aware of cultural aspects (MacIntyre, 2008, pp. 216-218), and the importance of a future beyond its own expected lifetime (Scheffler, 2010). Again, the point of commonality allowing for a self to come into being and for it to develop and extend beyond its spatial and temporal boundaries, is the relative equivalence between the ‘I’ and what the person has experienced. ‘I am who I perceive my self to be’.

On this, ‘all’ that is needed for the ‘I’ and self to be constructed are: capacity for experience, capacity for experience of agency and the capacity for the integration of agency, synchronic and diachronic experience(s). These capacities might be naturalistic, cognitively impermeable modules or they might be the result of neural hardwiring etc. It is far beyond this thesis to speculate on what they may be, much less how they actually work. However, as David Chalmers says “Some say that consciousness is an “illusion,” but I have little idea what this could even mean. It seems to me that we are surer of the existence of conscious experience than we are of anything else in the world” (Chalmers, 1996, p. xii). Likewise, I know I experience some things, I know I experience something that seems like agency, and I know that these feel unified, sometimes at least.

Extending from these capacities we develop the capacity to keep ‘self’ and ‘other’ relatively distinct. This occurs, at least in part, through differential information processing. Self-regarding information is cognitively tagged as ‘self.’ For instance we process our own voice differently when speaking than when listening to a recording of our voice (Rauschecker and Scott, 2009, p. 721). In some situations, this processing can result in deep problems: acute body dysmorphia, like anorexia for example, seems in part to be the result of a strong difference between the physical self as perceived, and the physical self as it is.

However, by leaving the cognitive processes unexplained, simply saying that Self-Regarding information is processed differently to Other-Regarding information, begs the question of how a person knows what is self and other. My guess is that the co-occurrence between sense modalities may explain part of this. When an infant

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228 What I mean here is that, in line with the cognitive model of identity presented in §4.1 - §4.5, self-regarding information has the particular thought ‘this is me’ integrated into the given network of thoughts about the incoming information.

229 Similarly, we cannot tickle ourselves. The co-occurrence of feeling between the tickling hand and the body part being tickled mean that the physical sensations are processed differently (Blakemore, Wolpert et al., 1998) resulting in self-touch feeling different to other-touch.

230 ‘Body Image Disturbance’ is one of the necessary criteria for anorexia in the DSM-IV (Thompson, Roehrig et al., 2008, p. 175).
simultaneously sees an object, feels that object by grasping and wills that the pink thing (their hand) grasp\textsuperscript{231} an object, they begin to learn that the pink thing and feelings of touch and proprioception are relatively equivalent. Likewise, seeing a parent’s hands, but not feeling what their hand is grasping, the infant can come to learn self from other. As with the case of anorexia, aberrations on normal function add weight to this claim. In the rubber hand illusion (Costantini and Haggard, 2007), an experimental test subject can come to believe that a rubber hand is part of their body, and will feel it is their hand being touched, when seeing the rubber hand get touched. Again, note the parallels here between self-regarding information and identity. Visual information about the rubber hand is processed relatively equivalently to visual information about the observer’s own hand. In this way, the rubber hand is part of the observer’s body image.\textsuperscript{232}

Through time, an observer builds up a host of experiences from different stimuli. Certain things co-occur, others don’t. An infant learns that its mother’s voice typically co-occurs with its mother’s face, whilst its father’s voice typically co-occurs with its father’s face. This allows the infant to develop categories beyond Self/Other, into Other\textsubscript{1}, distinct from Other\textsubscript{2}. Coupled with various forms of learning, the infant develops a concept of mother, and typically associates this concept the properties of Other\textsubscript{1}, while the ‘father’ concept associates with Other\textsubscript{2}.

Each successful categorization stores a simulation of the entity categorized. If the same entity or a highly similar one is encountered later, it is assigned to the category because the perception of it matches an existing simulation in memory. Alternatively, if a novel entity is encountered that fails to match an existing simulation, constructing a novel simulation that matches the entity can establish membership (Barsalou, 1999, p. 587).

As described in §4.5.3, categories often carry with them additional evaluative information. Further to this, given the inclination towards constructing Self- and Other-Regarding Identities with contingently stable features,\textsuperscript{233} the earlier and more frequently a set of properties, events and evaluations co-occur, the more likely it is that the observer will integrate these properties, events and evaluations together

\textsuperscript{231} I recognise here that there are two overlapping perceptual systems of graspable and non-graspable objects (Jacob, 2005). This suggests further evidence that the co-occurrence of different sense modalities is a key element of perception.

\textsuperscript{232} What I mean here is that body image is a different phenomenal concept to body schema. “The body image is a conscious image or representation, owned, but abstract and disintegrated, and appears to be something in-itself, differentiated from its environment. In contrast, the body schema operates in a non-conscious way, is pre-personal, functions holistically, and is not something in-itself apart from its environment” (Gallagher, 1986, p. 541).

\textsuperscript{233} A contingently stable feature, as I understand it, is a feature that is set by external conditions, but once set, is easily reinforced and hard to remove. Further, the longer it remains, the harder it is to reverse or change. Hence, contingent and stable. The quickest summation is ‘first impressions last’. This term is used by Sterelny, who uses it in relation to the development of certain phenotypic traits (Sterelny, 2003).
4.6.2 Where Does The Self End?

When considering identity as a cognitive process a person’s boundaries cease to be simply physical. If what counts as a person is not simply their physical limits, then other things should be included in the self. This of course raises a question of absurdity: where do I draw the line on what counts as part of a person? My answer to this is to build from what I described in §1.4, that the answer of where to draw a line on a person is by public justification, by reference to reasons. Some of which would include, but not limited to, basic respect, harms and equality, the common moral foundations listed in §1.4. I explain how here I set meaningful boundaries on what counts as a self.

Like Frankfurt, I hold that what is important in identity is not just the bare facts about a person, but how they identify with them. On his account, a person’s identity develops by how the person *endorses* facts and attributes about their self:

> Becoming responsible for one’s character is not essentially a matter of *producing that character* but of *taking responsibility for it*. This happens when a person selectively identifies with certain of his own attitudes or dispositions...In identifying with them, he incorporates them into himself and makes them his own (Emphases Original, Frankfurt, 2006, p. 7).

When she talks about ‘practical identity’, Korsgaard makes a similar claim about identity being a process, not a state (Korsgaard, 2009, pp. 18-20), and when she says that we constitute ourselves through our endorsed actions (Korsgaard, 2009, pp. 41-44). §4.6.1 suggested a set of cognitive processes that bring Self-Regarding Identity about: experience, agency and unity.

Taking an approach that focuses on cognitive processes means that identity is something not wholly equivalent to a person’s physical boundaries, this might seem counter intuitive. As Jonathan Glover points out, the ‘bodily frontier’ of a person seems to be a reasonable and objective boundary of a person’s identity (Glover, 1988, p. 82).

In response, there are examples that challenge the idea of the physical boundary of a person being the necessary boundary of their identity. Consider again the ‘rubber hand illusion’, mentioned in §4.6.1. Experimental subjects who “view stimulation of a rubber hand while feeling congruent stimulation of their own hand...may come to feel that the rubber hand is part of their own body” (Costantini and Haggard, 2007, p. 229). The

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234 By focussing on the cognitive processes of endorsement and self recognition, this brings the focus of discussion closer to Character Identity than Numeric Identity. I recognise here that I am building assumptions about Numeric Identity into the general discussion of identity – where the primary ethical concern is not whether persistence through time is biological or psychological, but what matters is survival of a stable identity through time. This should chime with those sympathetic to Parfit’s approach, that what matters in questions of numeric identity is survival (Parfit, 1971a; Parfit, 1987, pp. 260-266).
experimental subjects identify with an external element, the rubber hand, such that they actually feel physical pain when viewing a pin stabbing the rubber hand. Strong identification with external objects can result in the person having an experience of physical suffering: the cognitive process account explains why a person’s identity can extend beyond their physical boundaries.

Similarly, a person’s identity can contract within their physical boundaries. Consider Body Identity Integrity Disorder (BIID), a condition where an individual feels that a particular physical part of their body, like an arm or a leg, does not belong to them. “People suffering from body integrity identity disorder report that a particular limb does not belong to them, and that they feel “over complete” and want to have the alien limb amputated” (Muller, 2009, p. 36). This lack of identification with the limb is so strong that a number of people have attempted to self-amputate the particular limb without medical support (Bayne and Levy, 2005). While there are a number of candidate reasons for BIID, a study by Michael First (First, 2005) led him to propose that BIID (or many forms of it at least) was a dysfunction of anatomical identity, arising from an inability to identify the given body part as ‘self’. While BIID likely has a neurological basis (Muller, 2009, pp. 38-39), the relevance is that BIID supports a cognitive process approach to identity. “BIID stems from a mismatch between the agent’s body and their experience of their body, what we might call their subjective body” (Emphasis Original, Levy, 2007, p. 3). In cases like BIID, the cognitive processes can override the physical boundaries that are normally associated with the body. The rubber hand illusion and BIID challenge Glover’s physical boundary claim, suggesting that Self-Regarding Identity is not limited to the bodily frontier. In short, if what matters in identity is the person’s quality of life, then we should be concerned with what the person identifies with.

The cognitive process approach admits discussions of Group Identity to be made more meaningful. The basic idea of Group Identity is that ethnic groups, cultural groups, nations, particular personal relationships even sporting teams are legitimate aspects of identity. While a group may only be a conceptual entity, individuals do identify strongly with particular groups. Likewise, while the selection of a parochial sporting team may be irrational, it is surely hard to deny that individuals who identify strongly with particular subcultures can develop a strong sense of self as a result of this identification. As shown, identity is not limited to physical boundaries, so too, cognitive
processes can effectively explain how conceptual things, like social groups, are legitimate aspects of a Self-Regarding Identity.

However, if something like a weak ethical parity principle 235 is employed between one’s body and the things one identifies with, absurd conclusions can result. Take the popular line from John Stuart Mill that “over himself, over his own body and mind, the individual is sovereign” (Mill, 1971, p. 135). If Gina identifies with something, the cognitive process approach considers that thing is part of her identity, is morally equivalent to her body. So what happens if Gina really strongly identifies with Hank’s wallet? What if she identifies more strongly with it than Hank? Does Gina then have a stronger claim to the wallet than Hank? Likewise, it may seem legitimate if Gina identifies with a cultural group, but what if that group advocates something morally reprehensible, like genocide? The cognitive process approach seems to allow for a range of absurdities, requiring some way of limiting what is included in a person’s identity.

The way to find appropriate limits is to refer to ethical reasons. That is, if a person is making a moral claim that X should be considered part of their identity, they need to offer some sound justifications for why X should be considered part of their identity. While a necessary part of justification is that identity involves cognitive processes of identification, as described, this is not sufficient. Three additional factors need to be considered: how strongly does the given thing figure in their self identity? How will the person be harmed by not having this thing recognised as part of their identity? How does the person’s recognition impact on other people? I return to these questions in §7.4 – §7.7.

4.7 Sally Revisited: Virtual Identity

So, what does any of this discussion have to do with personal information and convergent technologies? The discussion of identity, especially given its fairly technical approach, may seem obscure in relation to technologies, and to cases like Sally’s, introduced in §4.1. In order make the discussion of identity relevant to informational technologies, I introduce here a final novel identity concept: Virtual Identity. This

235 I mean here to refer to Levy’s weak ethical parity principle which “asks us to examine the (rational) reasons we find some interventions into or alterations of the (narrowly construed) mind ethically impermissible or problematic. If we can find that these reasons apply equally strongly to actual or possible interventions into the environmental scaffolding that supports the mind, then we ought to hold that internal and external interventions are (ceteris paribus) equally problematic…Unless we can identify ethically relevant differences between internal and external interventions and alterations, we ought to treat them on a par” (Emphasis Original, Levy, 2007, p. 62).
chapter concludes with a description of what is novel about Virtual Identity and why it is important in a case like Sally’s, and more generally.

Virtual Identity fits with the discussions of the four identity concepts introduced in §4.4, Numeric Identity, Character Identity, Group Identity and Essentialised Identity. Recall that a basic quality that cut across all four of these identity concepts was that someone was making a claim of relative equivalence between something and a person or group. Virtual Identity, I suggest, also does this, but does it in an importantly different way.

A Virtual Identity, as I intend it to be used, refers to some information set in the world that calls to mind a person. Virtual Identity refers to a particular type of information, which encourages the observer to experience the information as Personal Information. I discuss information types in detail in the next chapter, so for now consider that this Virtual Identity refers to an ordered data set, considered prior to an observer’s experience of that ordered data set. However, because of the way a set of data is ordered, the social conventions associated with that ordering, and the cognitive agent’s existing cognitive networks, this data encourages or ‘affords’ a particular type of experience: the observer will likely experience the information as an identity. That is, upon seeing the ordered data set – in this case, a photograph of a celebrity – the observer will see that photo as the given celebrity. X perceives Y to be Z; The observer, X, perceives the photograph, Y, to be the celebrity, Z.

For instance, when showing Jane a photograph of Elvis, the data is ordered in such a way that Jane will experience the photo as a human face. Presuming she knows what Elvis looked like, she will experience the photo as the face of Elvis. So, while the photo itself is just a set of coloured dots arranged in a particular way, because Jane is a human with a given set of experiences and knowledge about the world, her capacity to

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236 As with previous discussions, I intend for this identity concept to hold to people and groups. But rather than saying ‘people and groups’ every time, I will simply refer to a single person, unless otherwise indicated.
237 In Chapter Five, I talk about two types of information – Thin Information, as simply ordered data, and Thick Information, as ordered data that is meaningful and judged to be true.
238 However, in line with the discussions in §4.2 - §4.5, this information when observed is experienced by the given cognitive agent. As Floridi recognises, while we can describe some information as something independent of cognitive interpretation, in practice, any time a person encounters such data in the world, they will experience it as information that carries with it meanings and truth judgments. I discuss this in Chapter Five. See also Floridi, (Floridi, 2011a, pp. 85 -87).
239 Affordances and their relation to information are described in §5.4. In advance of that discussion, I provide a brief description of affordances and information: [d]ata are constraining affordances: they allow or invite certain constructs (they are affordances for the information agent that can take advantage of them) and resist or impede some others (they are constraints for the same agent), depending on the interaction with, and the nature of, the information agent that processes them” (Emphases Original, Floridi, 2011a, p. 87).
experience the photo of Elvis as anything but a photo of Elvis is heavily constrained. In this sense, the photo is a Virtual Identity of Elvis.

Given our neural processes and social conventions, the information will typically ‘invite’ the observer to experience a photo as a person’s face, to experience a name as referring to some person etc. A Virtual Identity can refer to anything from a single name, a fingerprint, a genetic profile, to a photo of Elvis, to a very rich and detailed one, a biography like *The Identity Of Elvis Presley*.

I say that something like a photo of Elvis is a Virtual Identity, but given that the photo is some information in the world, ordered independent of a given observer’s experience, Virtual Identity is different to the identity concepts and elements discussed thus far. Though an observer such as Jane is establishing the relative equivalence between a photo of Elvis and the person, Elvis, there is a different set of relations going on than those discussed in §4.4. I want to draw attention to the fact that in a Virtual Identity, the relations of equivalence that the observer is making between something in the world and a given person are mediated by the informational entity that is the Virtual Identity. Again, thinking of the photo, were some of the properties of that photo to change, it would no longer call Elvis to mind. We now start to see how the discussion of identity as a cognitive process and information start to link up: if information is mediating the way that people form identities, and if – as argued in §4.6 – those identities carry with them important moral values, then information is something that is morally relevant.

While something like a photo of Elvis most clearly brings about an Other-Regarding Identity, what of a photo one’s self? Again, this shows the strength of the cognitive identity approach I have developed: If Jane looks at a photo of Elvis, she will likely perceive it differently than if Elvis (were he still alive) were to look at it. She, combining Other-Regarding and Other/Other Regarding Identities, may see the photo as a super cool rock star, to be held in high esteem. As an experience of Self-Regarding Identity, however, Elvis may see it as a harsh indictment of his lifestyle, and a depressing reminder of how fat and unhealthy he has become. Like a Necker Cube, despite its stability in the world, it is experienced differently by different cognitive agents, dependent upon their existing cognitive networks.

240 I note here that, given the multirealisability of information, §6.8, there is variation in the ways that different people will experience a Virtual Identity. A major factor affecting this sort of variance is other/other identity, discussed in §4.5.3 and §6.3.3.
Further, the identity types detailed in §4.5 – Self-Regarding Identity, Other-Regarding Identity and Other/Other-Regarding Identity – all refer to a cognitive agent’s perceptual experience. I intend Virtual Identity to refer to information which stands independent of a cognitive agent’s perception of the ordered data. The reason for focussing on Virtual Identity is that many convergent technologies order data, and Virtual Identities are used in and across many contexts, such that the data will typically produce many constrained, but variable, experiences. Daniel Solove captures the rise of Virtual Identities through convergent technologies in *The Digital Person*:

Small details that were once captured in dim memories or fading scraps of paper are now preserved forever in the digital minds of computers, in vast databases with fertile fields of personal data. Our wallets are stuffed with ATM cards, calling cards, frequent shopper cards, and credit cards—all of which can be used to record where we are and what we do. Every day, rivulets of information stream into electric brains to be sifted, sorted, rearranged, and combined in hundreds of different ways. Digital technology enables the preservation of the minutia of our everyday comings and goings, of our likes and dislikes, of who we are and what we own. It is ever more possible to create an electronic collage that covers much of a person’s life—a life captured in records, a *digital person composed in the collective computer networks of the world* (Emphasis MineSolove, 2004, p. 1).

Solove refers to digital dossiers, a “collection of detailed data about an individual” which he intimates are used to “in order to reach a judgment” about the subject of the dossier (Solove, 2004, pp. 1-2). These dossiers produce what he calls a ‘digital person’.

While I agree with his description, I use different terminology. Firstly, instead of a ‘digital person’, I have opted to refer to a Virtual Identity. The reason for this is that I feel that the term ‘digital person’ implies some personhood, which in ethics discussions carries with it a lot of baggage, in particular some cognitive agency. To avoid implying cognitive agency by use of ‘person’, I instead refer to identity. However, to mark this identity off from the way I use identity elsewhere, I add the prefix ‘Virtual’. The purpose of this prefix is to indicate that the identity being referred to is neither an actual person in the world, nor is it a particular agent’s cognitive experience. Instead, a Virtual Identity refers to some information about a person. Further, contrasting Solove’s use of ‘digital’ I have opted for ‘virtual’ to indicate that the identity is not necessarily located in some computer database, Virtual Identity can include things like photos, books etc., not obviously covered by the term ‘digital’.

Sally’s example is a case in point – she posts sets of information about herself online in a process of self creation through presentation of a Virtual Identity online. The information she posts is an expression of a set of aspects about her Self-Regarding
Identity. When Harry sees photos of her, reads about her day, etc. he is getting some set of constrained information about her. In an Other-Regarding sense, the Virtual Identity (Z) informs Harry’s (X) perception of Sally (Y). Finally, things such as the ‘number of friends’ and ‘like’ functions on Facebook give an explicit tool to denote how others see that person: they afford Other/Other Identities.

The final point is that, given the capacity for technologies to construct Virtual Identities from information, Virtual Identities matter. That is, if we care about identity, then we ought to care about things like Virtual Identities and how they are constructed. However, in order to properly understand what a Virtual Identity is, and how they are constructed, information needs explanation, and is the focus of the next chapter.
Chapter Five: On Information

5.0 Information

The opening chapters of this thesis explored reasons why we should be concerned about new technologies: existing conventions such as privacy and ownership are limited in their capacity to offer principled reasons as to the moral importance of personal information. By developing a cognitive account of identity, Chapter Four set the conceptual groundwork such that identity can be used as a way of explaining why we should be concerned about innocuous information. This chapter turns attention to information – what do we mean when we talk about information? It covers ways that information is commonly conceptualised, to ultimately claim that information is multirealisable. Further, it shows that it is this multirealisability that leads to controversies over information use. Presenting information in this way then allows for its relations with identity to be discussed, and the importance of innocuous information and informational technologies to be more fully explained.

5.1 Why Bother With Information? The Case Of The Aggression Gene

In 1993, the journal *Science* published an article that displayed a link between a particular sequence of human DNA and increased “impulsive aggression, arson, attempted rape, and exhibitionism” (Brunner, Nelen et al., 1993). Particular individual males carrying a specific variant of the Monoamine Oxidase A (MAOA) gene were shown to be more aggressive and display greater anti-social tendencies than the average person, and the MAOA gene became christened ‘the aggression gene.’ More recently, a series of studies were published that linked the aggression gene with complex behaviours and indigenous people of New Zealand, the Maoris. One article states that “[m]ale carriers of low MAOA activity alleles... [are] at risk for becoming a gang member and, once a gang member...at risk for using weapons in a fight” (Beaver, DeLisi et al., 2010, p. 130).

Unsurprisingly, publishing a connection between genes, specific ethnic groups and violent gang behaviour was controversial. One review article states that “[t]he scientists were described as hiding behind a veneer of supposedly ‘‗objective’‘ western science, using it to perpetuate ‘‗racist and oppressive discourses’’” (Wensley and King, 2010).

Note that this use of the MAOA example, and the later treatment of different concepts of information have been published elsewhere, (Henschke, 2010).
The MAOA example shows that people can have multiple understandings of the same piece of information, and that these multiple interpretations can be controversial i.e. some people saying that the MAOA gene is merely some set of facts about the world, while others see it as racism coupled with genetic determinism.

At the core of the controversy is the genetic information itself: a specific DNA sequence and the behaviour associated with it. More generally, the MAOA example shows us that information can be controversial. Living in the age of information, surrounded by increasing amounts of information, we can benefit from clarity of discussions around information. However, ‘information’ can refer to a number of different things. As Fred Dretske writes:

In thinking about information, one tends to think of something objective and quantifiable – the electrical pulses surging down a copper wire, for example – and at the same time, of something more abstract, of the news or message that these pulses carry – something not so clearly objective and quantifiable. For many purposes, this is a useful ambiguity (Dretske, 1981, p. ix).

To give a sensible discussion of information, we need to be clear about what information is and how it is used. This chapter describes and use three different but related approaches to information. Firstly, there is a common approach which understands information by reference to data and knowledge, in which data builds into information and information then builds into knowledge – this can be referred to as the ‘Data-Information-Knowledge’ sequence (DIK sequence). A second approach relates information to communication, in two complementary ways. The first way is concerned with quantification of information, such as the ‘Mathematical Theory of Communication’ (Dretske, 1981, pp. 1-62). Similarly, another common usage of information tracks to the result of being informed arising from some communicative activity. A third approach is that offered by Luciano Floridi where he develops and presents a ‘General Definition of Information’ (GDI), as ‘ordered, meaningful and true data’ (Floridi, 2004; Floridi, 2011a, pp. 80-84; Floridi, 2011b). The next three sections look at Floridi’s GDI by parsing its elements into the DIK sequence.

242 Chaim Zins gives a thorough description of how the data information and knowledge elements of the DIK sequence, are understood differently by different people (Zins, 2007).
243 Floridi has written extensively about philosophy of information. Most recently, he has released the book The Philosophy Of Information (Floridi, 2011a). This will be my primary reference with relevant pages given for specific quotations. However, wherever possible I will supply references to other publications where he makes similar points.
5.2 Data: The Pieces Of The Puzzle

The DIK is a very common way of understanding information: Chaim Zins conducted a survey of forty-five scholars from different fields relating to philosophy of information and between them they formulated about 130 definitions of data, information and knowledge. Despite this variation, Zins concludes that the DIK sequence is frequently used as a way of parsing the territory of discussion (Zins, 2007, p. 487). This section integrates the elements of Floridi’s GDI within the DIK sequence, in order to avoid the variation and confusion that can arise in discussions of information.

On both the DIK sequence and within Floridi’s account, data are ‘the atoms of information’; they are the smallest parts from which information is constructed. But what are data? Floridi notes that thinking of information as composed of data helps in understanding the concept of information, but acknowledges that data itself is not typically well-understood (Floridi, 2011a, pp. 85-86; Floridi, 2011b). A simple way to conceptualize a datum is a relation of difference between two things. Starting from the Greek work for difference, diaphora, Floridi proposes a ‘diaphoric definition of data’ where a “datum is a putative fact regarding some difference or lack of uniformity within some context” (Floridi, 2011a, p. 85; Floridi, 2011b). While information is typically encountered as “large clusters of well formed, codified data...which are heavily constrained syntactically and already very rich semantically...in its simplest form a datum can be reduced to just a lack of uniformity, i.e. a difference between the presence and absence of” (Emphasis Mine, Floridi, 2005a, p. 356). Put in another way, a datum can be defined as: “d = (x ≠ y), where the x and the y are two uninterrupted variables” (Floridi, 2004, p. 43).

Floridi offers a simple description of a datum as a black dot on a white sheet of paper (Floridi, 2005a, p. 11; Floridi, 2011a, pp. 85-87). In this example, there are two things – the black dot and the white paper, and the lack of uniformity between the two produces the datum. This example brings out the importance of the relation between the black dot and white sheet as essential to the existence of a datum. A necessary aspect to highlight is that the datum is about the relation between the two things, as Floridi states, a “datum is a relational entity”(Floridi, 2004, p. 43; Floridi, 2011a, p. 87). Further to this, the datum is not just the black dot, but the white background and the relation of non-uniformity or difference between them. The “white sheet of paper is not just the necessary background condition for the occurrence of a black dot as a datum, it is a constitutive part of the datum itself, together with the fundamental relation of inequality.
that couple it with the dot” (Emphasis Mine, Floridi, 2004, p. 43). In Floridi’s account, a relation between two non-uniform things is necessary but the GDI itself “is neutral with respect to the identification of data with specific relata” (Floridi, 2004, p. 43; Floridi, 2011a, p. 87). On the GDI account, a datum is neither the black dot nor the white paper, but the differential relation between them (Floridi, 2011a, pp. 86-87). To reiterate the point, the essential components of a datum are the difference between two things, and a relation between these two things. As Floridi says, “the nature of data is not well understood, philosophically” (Floridi, 2011a, p. 82). There is a further interesting discussion about what a datum is, particularly what the status of the black dot and the white paper are when considered independently of each other. However, that discussion is beyond the scope of this thesis to cover, much less resolve. What’s relevant for this thesis is to focus on the idea of a datum as a relation of difference between two things.

To make a simplistic comparison to basic chemistry, adding atoms to atoms produces molecules. Likewise, adding data to data gives us information. But simply adding data alone does not give us information. We need (at least) some order or syntax between these data.

5.3 Syntax: The Rules Of The Game

The second necessary component for Floridi’s general definition is that the ‘the data are well formed’ (Emphasis Original, Floridi, 2011a, p. 84). It is syntax that gives form to the data. This syntactic requirement is minimal and broad, and shouldn’t be understood as limited to linguistic conventions, instead it ought to be understood “as what determines the form, construction, composition or structuring of something...” (Floridi, 2011a, p. 84; Floridi, 2011b, p. 7). The basic claim here is that syntax is necessary for information. A handful of related differences are simply data if it is not ordered in some way or other; syntax is necessary for information. Simply stated, syntax refers to the rules by which the data are ordered. There is a considerable vagueness between syntax and meaning, in that it may be hard to make an explicit distinction between syntax and meaning. What is important here is to show the role that syntax and meaning play in information, rather than defining boundaries between syntax and meaning.

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244 This idea of a datum as a difference relation between two things raises a question of whether the datum refers to the two things, the relation of difference or both. §5.7.1 looks at two different ways of understanding this.

245 As Floridi notes, many discussions of information and data focus on the importance of a relation of difference in understanding data (Floridi, 2011a, p. 85).
The ordering of data can impact on information in two different ways: if the order of the data is changed, we can have different information. Consider the numbers 04092011. Depending on the rules of the system, presenting them as 11029040 or 04092011 can give different information. Further, presuming we are interested in meaningful information, if the rules of the system change, again, the meaning of the information may change. That is, it is not the order alone, but the recognition of the rules that govern the order that change the information. Think again of the numbers 04092011. If this is written as ‘04/09/2011’ it may refer to a date. However, for an Australian these numbers correspond to the date 4th of September, 2011, while for an American, these numbers correspond to the date 9th of March, 2011.246 The data may remain constant but by changing the rules, the syntax, the information changes. These changes can be quite relevant to people. Consider that Anne is travelling on a plane, and asks the airline for the date of departure, and they give her the information that ‘Your plane departs on 04/09/2011’. For Anne to use this data,247 it is important that she know rules governing the presentation of the data.

The discussion of information could end here, with information being simply data and syntax. This is a limited account of information, which I call ‘Thin Information’. It is like a ‘naturalist’ approach to information in that it refers to the way that information might be found in the world, conceptualised as independent of an observer.248 Dretske presents information in a similar ‘naturalistic’ way, when he says that the accomplishments of intelligent life on earth rely on the “raw material [of] information” (Dretske, 1981, p. vii). However this Thin Information does not cover an element commonly spoken of in relation to information – meaning.249

5.4 Semantics: What Is The Meaning Of This?

To introduce the idea of meaning, think again that data 04/09/2011 can provide two different tokens of information. One refers to 4th of September 2011, while the other refers to the 9th of April 2011. An explanation for the different information is that the

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246 There is a question of whether the dates contain the meaning. §5.4 takes a line that given particular conventions, the order of the data will encourage or afford the observer to assign a given meaning to the data set.
247 This point about use is made relevant in §5.4
248 Floridi recognises this point, when discussion environmental information (Floridi, 2011b, p. 18).
249 As with the comment in §5.2 about parsing the discussion into syntax and meaning, I recognise that there is overlap between syntax and meaning. However, it is beyond the scope of this thesis to explore this problem further. The key point is that syntax and meaning are both important conceptual elements in a thick account of information, and need to be discussed.
conventional uses correspond to Australian and U.S. meanings. When I communicate with Australians, because I am assuming the Australian day/month/year convention, I assume that they mean 4\textsuperscript{th} of September, 2011. When I communicate with Americans, because I am assuming the American month/day/year convention, I assume that they mean 9\textsuperscript{th} of April, 2011. In this way, the assumed conventions point to an assumed meaning. While the reference to meaning may help explain why the information is different without some discussion of meaning, we don’t actually know how the different information arises.

To begin explaining the ‘how’, we can refer to convention – the common practice for writing dates in Australia is day/month/year. The common practice in America is month/day/year. So convention is important. Yet convention alone does not give us all we want. The person who is the source of the information may be adhering to a particular convention, but how does convention explain meaning? A further element of explanation is needed. This element is the speaker’s intention.

In his paper Meaning, Paul Grice proposed that meaning is tied to a speaker’s\textsuperscript{250} intention: “[W]e may say that “A meant... something by x” is roughly equivalent to “A uttered x with the intention of inducing a belief by means of the recognition of his [A’s] intention” ” (Grice, 1957, p. 384). On the Gricean account, the meaning is the intention of the speaker. “What \textit{U} means by producing \textit{x} on a given occasion is a function of what \textit{U} intends, in a complex way, to \textit{get across} to his audience” (Emphasis Original, Neale, 1992, pp. 514-515). This account holds that meaning corresponds to the speaker intending that some utterance or speech act will produce a change or response in an audience by means of that utterance or speech act. For example, if Sam says ‘the ball is red’, the desired change is that the audience now believe that the ball is red – Sam’s words have brought about a change in the belief states of the audience. The speaker, Sam, intends that the audience has new beliefs as the result of his speech act. When Anne asked the airline about the date of departure, the speaker responded with 04/09/2011, intending that Anne now has the belief that the plane is departing on 04/09/2011.

However, what of things like genetic codes, or other data sets that seem to have no speaker intention behind them? Rather than trying to resolve issues of the source or

\textsuperscript{250} Note that though Grice took pains to describe his account in terms of utterers and utterances, to keep a reasonably consistent style within this section of the thesis, ‘speaker’ is used instead of utterer.
I approach this problem of the meaning of Thin Information by focussing on how an agent uses that information. Stephen Neale holds that with Grice’s account of meaning, “[i]t ought to be possible...to explicate the meaning of an expression (or any other sign) in terms of what users do with it, i.e., in terms of what its users...mean by it on particular occasions of use” (Emphasis Original, Neale, 1992, pp. 514-515). This formulation bears a resemblance to Ludwig Wittgenstein’s idea of ‘meaning as use.’ “For a large class of cases of the employment of the word “meaning” – though not for all – this word can be explained in this way: the meaning of a word is its use in the language” (Emphases Original, Wittgenstein, Hacker et al., 2009, §43, p. 25). If meaning is an essential element of information – as Floridi’s semantic account has it – and if differential use changes the meaning, differential use can change information: Information may change even if data and syntax remain constant.

To explain this point, consider again the numbers 04/09/2011. Now, consider that Anne must provide some password to access her boarding pass, and decides to use 04/09/2011 as her password. Though the numbers and their order remains constant, the information is now different, as it is being used differently. Because Anne is using the numbers for a different use, the meaning shifts from the date of departure to a password. Bringing the discussion back to intention and information, Anne uses the same numbers with different intentions, and so the information across different uses changes. By including semantic content as a necessary element of information, the thicker account of information results in information being dependent on how it used. §5.7 explores the relevance of this, in particular, on the multirealisability of information.

In addition to explaining the multirealisability of information, ‘information as use’ can help explain how some information has limits on its use. Simply stated, the data and syntax can function as affordances to what meanings can be ascribed to the data, ultimately affecting what information a person has access to. Within disciplines like those of philosophy of design and technology, the term ‘affordance’ “refers to the perceived and actual properties of the thing, primarily, those fundamental properties that determine just how the thing could possibly be used...Affordances provide strong clues to the operation of things” (Emphasis Mine, Norman, 2002, p. 9). Particular properties of a thing can influence how that thing is used. The properties of a big heavy

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251 This goes to the discussion between Putnam (Putnam, 1973; Putnam, 1975) and others i.e. Devitt (Devitt, 1990) and Grice (Grice, 1957) and others Weckert (Weckert, 1986). This discussion is, in part, about whether the reference of a term – its extension — determines the psychological state – its intension – or whether the psychological state determines the reference.
rock afford using it as a doorstop, and don’t afford using it as an eating utensil. The properties act as constraints on possible use. This point about constraints is important – someone could use a big heavy rock as an eating utensil, but given its properties, all other things being equal, there is a very low chance of this use arising.

Affordances are relevant to information in that the data and syntax are affordances to particular meanings and against other particular meanings. This point about data as an affordance is recognised by Floridi:

> [d]ata are constraining affordances: they allow or invite certain constructs (they are affordances for the information agent that can take advantage of them) and resist or impede some others (they are constraints for the same agent), depending on the interaction with, and the nature of, the information agent that processes them (Emphases Original, Floridi, 2011a, p. 87).  

While Floridi is correct in saying that data are constraining affordances, syntax acts similarly as an affordance. That is, a particular data set and a particular syntax will afford a particular use. For instance, consider natural information, like a genetic sequence. The particular sequence of base pairs and the syntax will strongly affect what meanings are ascribed to that sequence. The given order and conventional syntax typically constrain the range of use that the genetic sequence can be put to. The introduction of affordances explains how information use can be constrained or encouraged by particular data and syntax, without need to refer to an intentional agent creating the data.

Above and beyond the data and syntax, the way data are used is affected by the mental states of the user. For example, one person reading a sequence of DNA is simply going to be reading a string of As, Cs, Gs, and Ts. Yet for someone who is competent in genetics and molecular biology, these strings of A C G & T will mean (a) that there are particular base pairs of DNA found in a particular order, and that (b) given a host of other information, these base pairs will produce a given protein built up from amino acids. Similar to affordances, the mental states can act as encouragements or constraints on how the information is used. An agent’s background knowledge affects information.

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252 This point about affordances is repeated by Floridi elsewhere (Floridi, 2011b, p. 40).
253 As mentioned earlier, natural information refers to the thin conception of information, which is concerned only with data and syntax. In the case of genetic information, I call it ‘natural’ as its origin is not human. But – to be clear – the focus on ‘meaning as use’ is engaged when we have a cognitive agent ascribing meaning to the Thin Information.
254 A genetic sequence refers to the order of nucleic acid base pairs. There are four of these – Adenosine, Cytosine, Guanine and Thyamine, commonly notated as A, C, G and T respectively. A genetic sequence might then be presented as ATAACGTTCAGCTTGCGTA.
255 For instance there are various transcription elements of DNA, including when to start assigning base pairs to particular amino acids. Syntax for DNA translation to proteins is essential, as if you have a frameshift, the syntax changes and the proteins produced change.
5.5 Knowledge: Fitting Information To Truth

This section looks at knowledge and information. The first subsection looks at the idea that information is necessary for producing knowledge. The second subsection describes how information produces knowledge, and the third subsection examines the idea that knowledge affects information. The final subsection attends to some potential criticisms about talking about information and knowledge in relation to each other. Before progressing, I wish to point out that this section is not intended to be an exposition of the analysis of knowledge, nor is this section intended to resolve sceptical issues in epistemology, nor to provide an overview of the general issues in epistemology. Finally, I recognise that certain informative statements such as ‘that painting is beautiful’ may not easily fit into a discussion of truth. Such statements are perhaps better considered as communicative actions, which are discussed in §5.6. The focus here is how concepts of knowledge impact our understanding of concepts of information.

5.5.1 Knowledge, Truth And Information

This subsection, covers two different arguments about information and its role in knowledge, in particular, what role truth plays in information. To begin, consider that beliefs are concerned with how the world is. Knowledge is a special kind of belief in that it both represents the way the world is and a non-accidentally caused belief. To this end, knowledge was commonly described as ‘justified true belief’. Traditionally, “[t]o know that s is F is to be fully justified in one’s (true) belief that s is F” (Dretske, 1981, p. 85). However, as Edmund Gettier pointed out (Gettier, 1963), there are situations where a person has a true belief, that is justified, but we would not call this knowledge.

Dretske describes knowledge as ‘information-produced belief’ (Dretske, 1981, p. 92). Saying that the account of knowledge as justified true belief “remains seriously

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256 For instance, various issues like those discussed by Matthias Steup (Steup, 2009)
257 Peter Klein points to the importance of scepticism in epistemology, saying “[m]uch of epistemology has arisen either in defense of, or in opposition to, various forms of skepticism. Indeed, one could classify various theories of knowledge by their responses to scepticism” (Klein, 2011). Skepticism: A Contemporary Reader covers many recent discussions and response to scepticism in epistemology.
258 The collection edited by Ernest Sosa, Jaegwon Kim and Matthew McGrath Epistemology: An Anthology (Sosa, Kim et al., 2000) covers many key texts in epistemology.
259 This very basic premise is built from the Humean account of human psychology, in which beliefs and desires are contrasted. Beliefs are psychological “states that purport to represent the way the world is...[O]n the other hand...[desires] represent how the world is to be” (Smith, 1994, p. 7).
260 A relevant discussion on this point comes from the idea of epistemic luck; whether something would count as knowledge if an agent comes by knowledge largely as the result of lucky circumstances (Pritchard, 2004).
incomplete insofar as the concept of justification is left unanalysed” (Emphasis Original, Dretske, 1981, p. 85). Dretske gives an information theoretic account of knowledge. Noting that his account of knowledge is one of description, not definition, Dretske states:

[the idea of information causing (or causally sustaining) belief is intended to capture what is worth capturing in the doctrine that for a person’s belief to qualify as knowledge, there must not only be evidence to support [the belief], the belief must be based on that evidence. Insofar as the information that s is F causes [a person’s] belief that s is F, we can say that the belief is based on the information that s is F (Emphases Original, Dretske, 1981, p. 91).]

As such, Dretske’s information theoretic analysis stresses the role that information plays in justifying a true belief. In relation to truth, if knowledge is information-produced belief, and if knowledge is held to be true belief, then it follows that the information producing the knowledge must itself be true. “Information is what is capable of yielding knowledge, and since knowledge requires truth, information requires it also” (Dretske, 1981 Emphasis Mine, p. 45). As presented though, this argument does not make the claim that information must be true. 261

Floridi posits a stronger claim that in order for an ordered and meaningful data set to be properly called information, it must be true. In his ‘semantic’ argument (Floridi, 2004, pp. 45-46; Floridi, 2005a, pp. 359-364; Floridi, 2011a, pp. 93-107; Floridi, 2011b, p. 39) he reasons that if we allow false information to be information, then “[o]perators like ‘not’ lose their semantic power to corrupt information” (Floridi, 2011a, p. 104). This leads him to conclude that the idea of false information is “utterly implausible, even if not logically impossible” (Floridi, 2011a, p. 104). In short, following Floridi, ordered meaningful data that is not true is not information.

In addition to his ‘semantic argument’ Floridi develops a second line of reasoning about the truth-necessity claim on information. He does this by explaining that an adjective can be predicative or attributive. “[I]f an adjective in a compound is attributive, the [compound] cannot be split up without semantic loss” (Emphasis Original, Floridi, 2011a, p. 97). Consider a ‘false banknote’ or a ‘false constable’ (Floridi, 2005a, pp. 364-365; Floridi, 2011a, p. 97). We can’t split the compound – i.e. ‘false banknote’ into ‘false’ and ‘banknote’ – without losing the meaning of the term ‘false banknote’. Floridi then argues that a ‘false banknote’ is not actually a banknote,

261 What I mean by this is it seems sensible to talk about non-true information as long as it is not involved in knowledge. The argument described here does little to say why all information must be true.
but a counterfeit. Likewise, a ‘false constable’ is not an officer of the law, but someone pretending to be. He reasons similarly, that ‘false information’ is not information.

However, a common-sense response to this sort of truth-necessity claim is to ask what is involved if the information is not true. Consider that Sam tells Donna ‘the ball is red’, when the ball is in fact green. Note that the sentence ‘the ball is red’ conforms to the three elements of information discussed so far – data, order and meaning. Donna receives something, and if it is not information, then what is it? Floridi makes two points to this. Firstly, he points to the difference between ‘information as process’ and ‘information as content’ (Floridi, 2011a, p. 96). The focus here will be on information as content, particularly, what ordered meaningful data is if it isn’t true.

Floridi suggests we should instead consider false information as pseudoinformation. Within pseudoinformation, Floridi proposes two forms: misinformation and disinformation. Misinformation is well ordered meaningful data that is not true. If the source knows that they are communicating pseudoinformation, i.e. consciously lying, then it is disinformation (Floridi, 2011b, p. 46). Tracking to the ‘information as use’ account developed in §5.4, the speaker’s intention is relevant to determining the status of meaningful ordered data. A car’s speedometer misinforms the driver if the speedometer registers ‘90 kmh’, when the car is in fact going 100 kmh. The driver disinforms their passenger if they read the speedometer as ‘100 kmh’ but despite this, say that the speedometer registers ‘90 kmh’.

I would like to add a further form to pseudoinformation – ‘incomplete information’. On this form, well ordered meaningful data can count as pseudoinformation in particular contexts, even if the content is true. Incomplete information arises in a communicative context when a speaker presents true, well ordered, meaningful data, but this communicative act either does not succeed in meeting the speaker’s actual intention or the speaker’s expressed intention is different to their actual intention.

Consider that Hans is buying a car that he wants to drive that day. Hans believes that it is $4,000. This is well ordered, meaningful and true. However, the car requires new tyres before Hans can drive it. These will cost a further $300. In this sense, the total cost of the car is $4,300, so $4,000 is not true in a broader sense. Consider that Hans first talks with Amy, who tells him the car is $4,000. However, Amy says this, not knowing that the car needs new tires to drive, and/or that Hans wants information about

262 I talk about information as process in the next section of the chapter, §5.6.
a drivable car. Consider that Hans also talks to Bill, and Bill intentionally deceives Hans, stating the car is $4,000 instead of $4,300. Again, the car itself does only cost $4,000 but Bill knows that it will cost an extra $300 before it can be driven, and that Hans wants a car that is drivable.

The issue of pseudoinformation arises from the fact that the intended meaning was unsuccessfully communicated to Hans because the data used was incomplete to meet the recognised intention of the communication. Despite the fact that Amy’s intention was not to deceive Hans, Amy has given incomplete information to Hans. Bill gave Hans true, well ordered, meaningful data. Importantly, this was limited in that did not meet the implicit intention that Bill was giving Hans full knowledge about the price of the car. What can be called true information becomes slightly more subjective in a communicative context, expanding the scope of pseudoinformation. Having meaning and truth both as necessary elements of information results in the capacity for meaning to impact on the truth-aptness of information in particular communicative circumstances. The communicative aspect of information is discussed further in §5.6.

5.5.2 Information As Knowledge

Instead of thinking about truth as necessary for information, a second way of thinking about knowledge and information is to look at the conditions when the agent judges that their information is knowledge. This is a loose interpretation of ‘knowledge’ as it is not concerned with whether the beliefs the agent has are actually justified as being called true. Instead, I am focussing on the mental states that the agent has when they feel their beliefs to be justified to be true. This folk conception of knowledge may be looser than standard philosophic use of knowledge. However I consider this as relevant to a discussion of knowledge and information in that the agent considers themselves to be in a state of justified true belief with regard to some information.

For example, following the publication of Charles Darwin’s *Origin Of Species*, Samuel Wilberforce and Thomas Henry Huxley were part of a debate on Darwin’s theories. Wilberforce believed that a Christian deity was the cause of different species, while Huxley believed that natural selection was the cause of different species. What’s relevant in this example is that both Wilberforce and Huxley counted their beliefs as knowledge. This is despite the fact that at least one of the beliefs could not be

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263 Obviously, this is not intended to be much more than a caricature of the debate. It is described in detail in *Of Apes And Ancestors* (Hesketh, 2009).
true, so at least one of their beliefs would not be knowledge in the standard philosophic sense.

This brings us to the important point for this subsection – if Wilberforce and Huxley both have access to Darwin’s work, counted here as potential information, why would they both contend that they had knowledge? One explanation is that the potential information is judged against what the agent ‘already knows’. The agent’s set of antecedent beliefs bear upon whether an ordered data set is accepted or rejected by the agent. In short, when an agent judges the truth-aptness of a given ordered data set, the data set is judged in relation to the agent’s existing cognitive networks.

This claim comes from current neuroscientific and cognitive psychological research. Consider ‘Capgras delusion’, in which the sufferers believe that their significant others have been replaced with robots, imposters or aliens (Ellis and Lewis, 2001). While different neurological causes for Capgras delusion have been postulated, common to them is the idea that the sufferers do not have the standard affective response to seeing their loved ones. Despite the fact that the data received by the sufferer is standard, their emotional response to the loved one is ‘wrong’. That is, when they encounter their loved one, they “fail to experience normal feelings of familiarity...It looks like mom, but it doesn’t feel like her” (Emphases Original, Levy, 2007, p. 19). As such, the sufferer rejects the truth of ordered and meaningful data. Perhaps the affective response can go some way to explaining why Wilberforce and Huxley had such different experiences of Darwin’s work: Given their background beliefs, it is likely that they had different affective responses to Darwin’s work. Given that many of these background beliefs and affective responses occur at subpersonal levels, both Wilberforce and Huxley may have been equally convinced of the truth of their position and the correctness of their knowledge.

If some ordered meaningful data doesn’t ‘feel right’ or ‘doesn’t make sense’, the agent may reject it as being true. Knowledge, understood loosely as the agent’s contention that their beliefs are true, can have an important emotional component.

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264 I am following Dretske and Floridi here, in that a well ordered, meaningful data set is not yet information, as it needs to be assessed as true or false.
265 ‘Already knows’ is put in scare quotes as the examples demonstrate belief states that would not count as knowledge. The idea of antecedent beliefs and other existing cognitive states are covered in the next subsection.
266 Recall from §4.3 that ‘cognitive network’ is used to refer to the set of neurological and mental networks of the agent, including both affective or emotional states, including states that we are conscious and not conscious of.
267 Garry Young (Young, 2008) and Haydn Ellis and Michael Lewis (Ellis and Lewis, 2001) present a series of different explanations for the aetiology of the delusion.
Whether the agent accepts the ordered meaningful data as true, then, is dependent on how the agent’s cognitive networks are structured. On the full account of information as ordered, meaningful data that is (perceived as) true, the cognitive networks of the agent are essential. If we are to talk meaningfully about information in the full sense, we must take into account the agent’s cognitive networks.

5.5.3 Information And Integration
The idea that knowledge influences information is presented here. §4.3 discussed how people’s previous experiences influenced their current perceptions. To take one more example, a group of soldiers ate lemon flavoured jelly and thought it tasted like cherry, because the cook had run out of cherry flavoured jelly and had coloured the lemon jelly red (Wansink, 2006, pp. 120-121). The previous experiences of the soldiers in which red jelly tasted like cherry had influenced their current perception, and seemingly overridden the actual flavour of the jelly. Again, taking the loose use of knowledge as ‘when a person feels that their beliefs are justified as true’, information can be influenced by the person’s knowledge.268 This line of reasoning presents the justification of beliefs in a similar form to a coherentist account of beliefs like that presented by Laurence BonJour:

[C]oherence is a matter of how well a body of beliefs “hangs together” : how well its component beliefs fit together, agree or dovetail with each other, so as to produce an organized, tightly structured system of beliefs, rather than a helter-skelter collection or a set of conflicting subsystems (BonJour, 1985, p. 93).

And while there are a host of different causal factors in why, how and when different mental stages interact, the relevant point here is that the person’s knowledge changes information: New ordered meaningful data will be accepted as true or not true depending on how it ‘hangs together’ with the agent’s existing system of beliefs.

While coherence alone may not suffice as a proper justification for knowledge in the strong sense,269 it does seem to indicate how people actually experience the world. To explain, consider that how an agent experiences the world is “dependent upon the experience, knowledge and expectations of the observer” (Chalmers, 1999, p. 7). This sort of claim should not be controversial. The value-ladeness of theory has been a

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268 This point about the important causal role played by experience in information construction is further discussed in Chapter 6, especially in §6.3.
269 For instance, as Michael Williams argues: “Global justification depends on our checking our system of beliefs for how well it hangs together...But it is not enough for me just to have (meta) beliefs about my (first) order beliefs. Those meta beliefs must themselves amount to knowledge, or at least be justified. If they are not justified, appealing to them will do nothing towards providing a global justification of my beliefs about the world” (Williams, 1991, p. 293).
common element in philosophy of science at very least since Norwood Hanson’s pithy phrase “there’s more to seeing than meets the eyeball” (Hanson, 1958). Existing cognitive networks influence how an observer experiences the world. “Two normal observers viewing the same object from the same place under the same physical circumstances do not necessarily have identical visual experiences...It would seem that there is a sense in which what an observer sees is affected by his or her past experience” (Chalmers, 1999, pp. 5,7). An explanation of value-ladeness is offered here by looking at Dretske’s idea that ‘information is knowledge causing’, in the opposite way: ‘knowledge is information causing’.

The idea that knowledge causes information refers to information in the sense that Floridi understands it as it relies on the idea that information is constructed from the syntax, the meaning and assumed truth of a data set. Information – ordered, semantic, truthful data – is shaped by how it hangs together or coheres with the agent’s body of beliefs. As displayed in §5.5.2, it is not only consciously held propositions about the world, or the agent’s conscious memory that goes to producing information, but subpersonal cognitive mechanisms like affective judgments. Further, the available meanings and syntax that are at an agent’s disposal to create the information are contingent on the agent’s existing cognitive networks. The meanings that go with an ordered data set, the perceived truth-value of the ordered data set are dependent on the agent’s mental states. Knowledge in the loose sense is a fundamental causal element in information construction.

5.5.4 Why Information?

A question arises of why talk about information? Given the heavy reliance on truth and semantic content, isn’t it better to simply talk of knowledge or meaning rather than information? I am agnostic, in that I am not seeking to argue for why it is correct that we consider information in terms of well ordered meaningful true data, or that what is presented is information rather than an information theoretic account of meaning or knowledge. Instead, what is offered here is (a) a description of information as well ordered meaningful true data that (b) relates to meaning and knowledge. The value of this approach is twofold. Describing information as well ordered meaningful true data makes it clear what I am referring to when talking about information. Secondly, given

270 I do not mean to say that all value-ladeness of theories, or of information can be explained by reference to knowledge. Instead, that the value-ladeness of many types of information can be explained by reference to existing knowledge.
that the focus of attention in this thesis are the ethical concerns arising from convergent information technologies, this approach allows for a focus on the informational aspects of these technologies, ultimately allowing for a pragmatic response to the concerns in the final chapter of this thesis.\textsuperscript{271}

5.6 Information And Communication

As mentioned, Floridi parses pseudoinformation into misinformation and disinformation. §5.5.1 added incomplete information. The division of pseudoinformation into these three forms presumes some communication between multiple semantic agents. Communication is relevant to information in two ways. Communication theory has played an important historical role in the development of theories of information, via the development of the Mathematical Theory of Communication (MTC), described below. Secondly, in common use, information can often refer not to information as content – the ordered, semantic, truthful data – but the process of informing and being informed,\textsuperscript{272} described in §5.6.2.

5.6.1 The Mathematical Theory of Communication

The MTC is a large field of investigation into information, sometimes called information theory or communication theory. It largely developed following the publication of Claude Shannon and Warren Elwood’s \textit{The Mathematical Theory Of Communication} (Shannon and Weaver, 1949). Evolving from electrical engineering, the MTC is concerned with Thin Information (i.e. non semantic, non truth-apt) and has a focus on the quantitative transfer of information. The two driving interests in developing the theory were determining how small a message could be whilst still giving the same information and the speed of data transmission, given as entropy and channel capacity (Floridi, 2004, pp. 46-47; Floridi, 2011b, pp. 46-52). Again, the primary focus of the MTC was quantification of information in a message. Dretske opens his book \textit{Knowledge And The Flow Of Information} with the paragraph:

The mathematical theory of information, or communication theory...provides a measure of how much information is to be associated with a given state of affairs and, in turn, a measure for how much of this information is transmitted to, and thus available at other points. The theory is purely quantitative. It deals with \textit{amounts of information} – not, except indirectly and by implication, with the

\textsuperscript{271} See §8.2.

\textsuperscript{272} This distinction is made by Floridi, via “the principle of ‘exportation’...[going] from information as process to information as content” (Floridi, 2011a, p. 96).
information that comes in those amounts (Emphasis Original, Dretske, 1981, p. 3).

The relevance of the MTC comes from its focus on key elements in a general communication system – the source, transmitter, message, receiver, destination, and channel.

An information source...produces a message or sequence of messages to be communicated to the receiving terminal...[the] transmitter operates on the message in some way to produce a signal suitable for transmission over the channel...The channel is merely the medium used to transmit the signal from transmitter to receiver...The receiver ordinarily performs the inverse operation of that done by the transmitter...The destination is the person (or thing) for whom the message is intended (Emphases Original, Shannon and Weaver, 1949, pp. 4-6).

Treating the source and transmitter as a person, and the receiver and destination as another, we can start to connect information as process to the discussions from §5.3 - §5.5.

5.6.2 Information As A Communicative Process

Consider people, two communicative agents, Source and Destination a.k.a. Sam and Donna. When Sam says ‘the ball is red’, he intends for Donna to understand that he means that the ball is red. Sam’s message is composed of four words, which have been ordered following standard English grammar. In a standard context of English speakers, whether as a spoken or written message, the meaning of the statement is reasonably straightforward. There is a ball, and it is red in colour. However, following the ‘meaning as use’ concept from §5.4, ‘the ball is red’ might mean something completely different. Consider that Sam is a spy meeting a covert operative. ‘The ball is red’ might be code for ‘we will go ahead with the assassination of the president. Proceed as per the initial plan.’

Conventional use of ‘the ball is red’ would assume that the speaker intends to produce in their audience the belief that the ball is red. In non-conventional use the speaker saying ‘the ball is red’ may intend to produce in their source the belief that they ought to go ahead with the assassination of the president. This shows the importance of recognising the syntax as the rules governing the communication and the intended meaning and the knowledge as the cognitive states of the agents involved. Dretske talks about nested information, where one set of ordered data can carry with it other information. If the destination knows that “whenever s is F, t is G...then no signal can bear the message that s is F without also conveying the information that t is G”
What is nested in the message is heavily dependent upon both the source and the knowledge that the destination has, a point made in §5.5.3.

Note however, that in multi-agent communications, meaning as intention refers to the meaning that the source of communication has for a message. If Sam says ‘the ball is red’ to a newborn with no language skills, a foreigner with no knowledge of English, a person without the capacity to hear, a dog, or an inanimate object, the meaning of the message seems stays the same, because Sam’s intention as speaker remains the same.

However, consider the spy example again. This time, Sam sits next to a person Norm, who is a normal member of the public. In this example, Sam thinks that Norm is the would-be assassin. While Sam intends the message ‘the ball is red’ to mean, kill the president, Norm understands the message to mean that somewhere, there is a ball, and it is red. The point here is that there can be a destination meaning that is independent of the source intention. What if Sam sits next to a stranger in a park and happens to say that the ball is red, but this stranger is an assassin waiting for a code? For the assassin the meaning is independent from what Sam intended. This stranger might be a political assassin, awaiting orders, while Sam is just a friendly person talking about the colour of balls. The meaning for the assassin is different to Sam’s intention. This event has been described as explicature – the meaning that the person receiving the information derives from the given message (Bach, 2006). Instead of jettisoning the idea of meaning as intention, we need to be clear about whether the meaning is referring to the source’s intention or to the destination’s cognitive states after receiving the message, a point discussed further in §5.8.

The red ball/green ball discussion provides a good example of the information/pseudoinformation division. Consider that Sam is holding a red ball, and Donna asks him to say what he sees. Sam replies ‘the ball is red’. If Donna’s eyes are open, this is information, probably trivial. If Donna’s eyes are closed, and Sam tells her that the ball is red, Sam has given her some information. Now, consider that Sam is now holding a green ball, and Donna asks Sam to say what he sees. Again, his reply is ‘the ball is red’. Under strict truth conditions, Sam has given Donna no direct information about the ball, instead Sam gave her pseudoinformation. That is, either he lied or made a mistake.

As was discussed, this seems counterintuitive – surely Donna receives information, irrespective of the truth contained in Sam’s message. However, this is
dependent upon the specifics of what one is concerned with. If we are looking strictly at the message ‘the ball is red’, then Donna has no information, but instead has pseudoinformation. Yet, as Floridi rightly notes in passing, information is additive (Floridi, 2011a, p. 98). So if Donna knows that the ball is green, and Sam says that ‘the ball is red’, then Donna has received information, just not about the colour of the ball. She might now have the information that Sam is a compulsive liar, or that he has red-green colour blindness. Adapting Dretske, “if Donna happens to know (on other grounds) that what Sam is saying is false, then she may nonetheless get information, information about Sam (he is lying) from what he says, but she will not get information corresponding to the conventional meaning of what he said” (Dretske, 1981, p. 44). We have now expanded our set of concerns from the meaning of message to include knowledge about the speaker.

Consider again the message ‘the ball is red.’ Adapting another example from Dretske (Dretske, 1981, pp. 94-95), imagine that a game of chance is being played. It has ten balls of different colours, and players cannot see the balls. The balls are removed at random, the announcer calls out the ball that has been removed, and the players must guess the next ball that will come out. After all ten balls are removed, they go back into the pot. If a player guesses correctly, they win $100. Victor and Louisa are playing this game, and both hear ‘the ball is red’. Clearly both have received the same message, ostensibly containing the same information: that the ball that has been removed from the pot is red. Now, consider that Victor had been watching the game for eight rounds, such that he has the knowledge that there are only two balls remaining – a red and a green. By the announcer calling ‘the ball is red’ Victor now has the information that the remaining ball is green. Louisa, on the other hand, had not been watching the game and entered only as the announcer called ‘the ball is red’. The only information that she has is that out of the remaining nine balls, none of them is red.

As argued in §5.5.3, a given ordered meaningful data set produces different information in different receivers, given the pre-existing knowledge that the people have about the source.

[T]he single observation…carries the same information to both of us. The explanation for why I learned more from it than you…is that I knew more to begin with…The latter piece of information is…nested in the former piece of

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273 The original Dretske quotation is: “If you happen to know (on other grounds) that what I am saying is false, then you may nonetheless get information, information about me (I am lying) from what I say, but you will not get information corresponding to the conventional meaning of what I say” (Emphasis Original Dretske, 1981, p. 44).
information…This constitutes a relativization of the information contained in a signal because how much information a signal contains, and hence what information it carries, depends on what the potential receiver already knows about the various possibilities that exist at the source (Emphasis Original, Dretske, 1981, pp. 78-79).

In fact, this point is vital to emphasise. If Donna has knowledge in the form of an information set \( x \), and Sam provides her with one more piece of data, \( y \), given her pre-existing information set of \( x \), the addition of \( y \) may provide her with entirely new information.

We can say that information is reactive and additive. It is reactive in that the information is constructed by the agent through reactions with data and the agent’s knowledge. It is additive in that data, received by a destination will add the ordered meaningful true data to the existing information that they have about the world, their knowledge set, to produce new information.

5.7 New Information

This section seeks to find an answer to the question ‘what is new information? To answer this, it returns to a discussion of data, introduces four different types of emergence to show that information is a form of soft epistemic emergence, and then says something about what has actually emerged.\(^{274}\)

5.7.1 Something From Something

Recall that information is ordered meaningful true data. So what is new information? On the ‘information as use’ line developed in §5.4, new information may simply be a novel use for existing data sets. However, information is additive (Floridi, 2011a, p. 98).

That is, we can also get new information when one data set is integrated with another one, similar to the discussion from §5.5. I now focus on this type of new information.

The additive process can be described in terms of adding discrete units of information, which Floridi calls infons.\(^{275}\) So, infon 1 + infon 2 = infon 3. But what is infon 3? Infon 3 is something new that has emerged from the integration of infon 1 and

\(^{274}\) I recognise that the question of whether there are truly emergent properties is debatable. Rather than necessarily arguing that there are such things as emergent properties, this section can be read as part of the project to better make sense of information. In this way, my methodology is similar to that of Jaegwon Kim, “I am not primarily concerned with the truth or tenability of emergentism or nonreductive materialism; rather, my main concern is with making sense of the idea of emergence – the idea that certain properties of complex systems are emergent while others are not” (Kim, 1999).

\(^{275}\) An infon is the term used by Floridi for a ‘discrete item of information’ (Floridi, 2011a, p. 85) An infon is a particular ordered meaningful and true data set. The term infon is used now to avoid repeating the discussion of meaning and information as use, as I wish to instead to focus on the addition of different sets of information.
infon 2. This may leave some people a little concerned: A criticism of emergence is that one is getting something from nothing. So a concerned reader might be thinking ‘new information emerges from existing information? That sounds a little like one is getting something from nothing.’ However, in the case of information this is not correct: it is not that we are getting something from nothing. Instead we are getting something from something. This is because information is, at its foundation, relational.

To explain, recall that the foundation of information is data. As was briefly noted in §5.2, data itself is hard to pin down. Recall that Floridi says that “the nature of data is not well-understood philosophically” (Floridi, 2011a, pp. 85-86; Floridi, 2011b). This lack of an ability to explain data may be in part because data is relational. Returning to Floridi’s example of the black dot on white paper (Floridi, 2005a, p. 11; Floridi, 2011a, pp. 85-87), “a sheet of white paper is not just the necessary background condition for the occurrence of a black dot as a datum, but a constitutive part of the black-dot-on-white-sheet datum itself, together with the fundamental relation of inequality that couples it with the dot” (Emphases Mine, Floridi, 2011a, p. 87). A necessary element of the datum is the relation that arises from the difference between the white paper and the black dot.

Is this relation something? Avoiding a discussion of the ontology of data, if we count experience as something, then the answer is yes. That is, given that we as observers construct this relation, then a datum is something in a subjective phenomenological sense. These relations of difference are proposed to be an “external anchor of our information...their presence is empirically inferred from, and required by, experience” (Floridi, 2011a My Emphasis, pp. 85-86). As long as subjective experience is something, then data is something. And if data is something, then adding something to something can generate something. In this manner, we can describe information generally as something, so the concern about getting something from nothing is not substantiated. When we add infon 1 and infon 2 we produce infon 3; we get something from something. In short, infon 3 emerges from the integration of infon 1 and infon 2.

5.7.2 Four Types Of Emergence

New information emerges from the convergence of different subsets of existing information, the integration of infon 1 and infon 2 to produce infon 3. At first blush, this claim may be controversial. Part of the reason is that emergence feels like getting
something from nothing. However, as was shown in the previous section, ‘something from nothing’ is not a fair description, as data can be something. This subsection presents four different types of emergence, and presents new information as emerging from the integration that occurs when data converges with meaning and knowledge.

There is a long history of emergence, with the Greeks, to Locke and through early 20th century and ‘British Emergentism’ (O’Connor and Wong, 2009, pp. 2-14). Recently, emergence has returned to philosophic debates (Kim, 1999), particularly in the fields of philosophy of mind and consciousness (Chalmers, 2006), and now in engineering and systems theory (Kroes, 2009, pp. 277-278). On one description, emergence can generally be described as when “emergent entities (properties or substances) ‘arise’ out of more fundamental entities and yet are ‘novel’ or ‘irreducible’ with respect to them” (Emphasis Mine, O’Connor and Wong, 2009, p. 1). Another account is offered by Peter Kroes:

Emergence is said to occur when certain properties appear in a system that are novel or unexpected and go beyond the properties of the parts of that system. Paradigmatic examples of emergent features studied…are consciousness and the brain, life in biological organisms, and chaotic behavior of complex dynamical physical systems (Kroes, 2009, p. 277).

A further element, important to the current discussion is that the emergent entity can then influence the parts that it is composed of, downward causation (Kim, 1999). So, as a general description, emergence occurs when parts of a system are brought together to produce something new or novel, that can then influence the more fundamental elements that it is composed of. Important for this discussion is the recognition that the novel thing cannot be immediately reduced to its component parts without losing an understanding of the whole (Kim, 2006; Mitchell, 2004, pp. 83-85). §5.7.3 discusses the relevance of downward causation to this thesis.

Kroes holds that there are two essential aspects of emergence that need to be recognised, such that we better describe what type of emergence is being spoken of (Kroes, 2009). We need to determine if the emergence is ontological or epistemic, and if it is weak or strong emergence. Following Kroes, when something new emerges, which is independent of observation, “a real-world item”, then it is ontologically emergent. If

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276 One of the controversial aspects of emergence is that it seems to be getting something from nothing. As Mark Bedau writes, emergent phenomena “raise the spectre of illegitimately getting something from nothing” (Bedau, 1997). However, I have shown that in the discussions of information, it is not a case of something from nothing, but something from something.

277 Kim states “[s]ince around 1990, the idea of emergence has been making a big comeback, from decades of general neglect and disdain on the part of mainstream analytic philosophers” (Kim, 2006, p. 547).
it is subjective, i.e. “in the sense that whether a property is emergent or not depends on a knowing subject or the knowledge base of a cognitive practice” then it is epistemically emergent (Kroes, 2009, pp. 280, 285). Secondly, following Kroes again, strong emergence is where, even with a perfect knowledge set, the emergent property is unpredictable or unexplainable, a point made by David Chalmers about consciousness (Chalmers, 2006, pp. 129-130). Weak emergence occurs when the emergent property can be predicted or explained, if given a perfect knowledge set. Following Kroes’ distinctions new information can be described as a weak and epistemically emergent.\textsuperscript{278}

To explain this, remember that epistemic emergence means that it occurs subjectively, and weak emergence means that the emergent entity can be explained. Now, consider an example where Catie sees John. John exists in the world and has a set of properties that Catie has sensory access to.\textsuperscript{279} Catie looks at the shape in front of her and Catie’s mind gets the information that John is standing in front of her from the meaningful and truthful data presented: his body shape, his facial structure, his eyes etc.\textsuperscript{280} The convergence of these different pieces of information, the different infons, provide the anchors for the experience of John as \textit{a whole entity}. It is this whole entity experience of John that is emergent. This experience is emergent in that the different pieces of visual information have been brought together to produce something new or novel.

Importantly, the representation that Catie has of John, John\textsubscript{R} cannot be fully understood by reducing it simply to the isolated infons. To speak of Catie’s representation of John as being ‘body’ ‘face’ or ‘eyes’ misses the whole informationally integrated picture of John\textsubscript{R}. Consider prosopagnosia, a condition whereby individuals are unable to visually recognise faces despite having normal vision and visual information processing. A key elements in many cases of prosopagnosia is the inability to perform holistic processing, the integration of “facial features into a whole” and limits in second order relations, the “encoding [of] spacing among facial features” (Le Grand, Cooper et al., 2006, p. 142). That is, a limitation on recognition of the higher order relations between facial features. To properly understand the experience of a person’s face, we need to see the face \textit{as an emergent representation}. Catie’s

\textsuperscript{278} I note that for some, only strong emergence is true emergence, as weak emergence becomes trivial. For example, consciousness is held by Chalmers to be strongly emergent while all other things are, given a perfect information set, weakly emergent (Chalmers, 2006).

\textsuperscript{279} For brevity sake, we will limit the sense modality here to Catie seeing John.

\textsuperscript{280} As was discussed in §4.2 - §4.4, human visual recognition of other humans occurs via the recognition of different physical attributes that are abstracted and integrated.
representation of John, John$_{R}$, is *epistemically* emergent in that it is a phenomena that occurs in Catie’s mind, and is *weakly* emergent in that we can explain how it comes about from the integration of the different infons.

### 5.7.3 What Has Emerged?

In the case of Catie seeing John, it is the abstract representation of John in Catie’s mind, John$_{R}$ that has emerged. This is explained by showing the relevance of the emergent entity to the discussion of information. As mentioned in the discussion of Catie and John, and previously discussed, humans perceive the world by converting direct sensory experience into something the human mind can use.$^{281}$ Recalling the discussion of perception, §4.2 and §4.3, sense organs, like the ears, the eyes etc. receive information about the world, and through transducers and input systems, transform the world into a format that the brain can use. “*What perception must do is to represent the world as to make it accessible to thought*” (Emphasis Original, Fodor, 1983, p. 40). Importantly for this subsection, the transformed data is then processed upwards, producing greater complexity of information. Smaller, discrete infons converge, are processed and integrated by neuroanatomical computational hubs (Rauschecker and Scott, 2009; Sporns, Honey et al., 2007). Through these neuroanatomical hubs, the infons are fed forward, and integrated to construct new abstract representational forms, objects and categories (Hochstein and Ahissar, 2002, p. 792). Catie’s representation John$_{R}$ is constructed via the integration of the different infons relevant to particular aspects of John.

Importantly, it is not the independent infons of his eyes, face shape, body shape etc. but the integration of these infons to form the abstract representation that is the unified entity John$_{R}$. Given that I am focussing here on Catie’s experience of John, John$_{R}$ is *epistemically* emergent. Neuroscience$^{282}$ explains that John$_{R}$ is constructed from the different infons, so John$_{R}$ is *weakly* emergent, perhaps quite weakly. However, note that John$_{R}$ can only be properly understood as an integrated representation constructed from different infons. The reason for calling John$_{R}$ emergent is that we lose something important if we try to understand John$_{R}$ in terms of the isolated infons. The

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$^{281}$ Dretske discusses the process underpinning the coding information from something perceptual to something cognitive, i.e. something that can be used, in detail in Chapter 6, particularly the *Sensory vs. Cognitive Processes* section (Dretske, 1981, pp. 141-153).

$^{282}$ (Mishkin, Ungerleider et al., 1983; Rauschecker and Scott, 2009).
novel property is thus that unified representation John_{R}, which exists above and beyond ‘face, eyes, nose etc.’

Further, the emergent entity John_{R} exhibits downward causation on its constituent elements. Kim states that “downward causation involves vertical directionality – an “upward” direction and a “downward” direction” (Kim, 1999, p. 19). Recall the dual process model of perception discussed in §4.2 where perception occurs in two directions, ‘feedforward processing’ (FFP) and ‘reverse hierarchy theory’ (RHT). “Processing along the feedforward hierarchy of areas, leading to increasingly complex representations, is automatic and implicit, while conscious perception begins at the hierarchy’s top, gradually returning downward as needed” (Hochstein and Ahissar, 2002, p. 791). The RHT “postulates that a parsing decision is first based on the highest available level of…representation (e.g., objects)” (Shamma, 2008). That is, the high level abstract representations influence when the fine grained perceptual feedforward processes are engaged. In addition to affecting cognitive processes, these abstract representations substantially influence the perceptual processes as well, discussed in §4.3 and §5.5. This is what Kim calls the ‘causal efficacy of the emergents.’ “What is distinctive about this form of downward causation appears to be this: Some activity or event involving a whole W is a cause of, or has a causal influence on, the events involving its own microconstituents” (Emphasis Original, Kim, 1999, p. 26). In a form of downward causation, the entity John_{R} influences how Catie will perceive John.

Two related questions arise: why speak of the emergent entity in informational terms, and is the new information actually emergent or predictably resultant? Answering the second question also offers an answer to the first. To explain, we need to look at the level of abstraction\textsuperscript{283} at which infon 3 is experienced. “Systems with a higher-level of complexity emerge from the coming together of lower-level entities in new structural configurations” (Kim, 1999, p. 20). While infon 3 may seem like it is occurring at the same level as infons 1 and 2, this is not correct. §4.2 described cognition as thoughts about thoughts, increasing levels of abstractions arising from increased integration of lower level representations. Infon 3 is a cognitive product that sits at a higher level of abstraction than infons 1 and 2. John_{R} is the whole that emerges from the integration of the discrete infons. Mereologically, John_{R} is a qualitatively different entity to the single entities of eyes, nose, mouth etc.

\textsuperscript{283} Floridi provides an in depth discussion of the method of levels of abstraction (Floridi, 2008, 2011a).
Infon 3 is new and unpredictable because infon 3 cannot be properly understood until experienced as a whole. Catie can only understand JohnR as a singular entity through experiencing that entity. Infon 3 is a novel whole entity comprised of its two subunits, infons 1 and 2. Importantly, if infon 3 has not been experienced before, then no description of infons 1 and 2 and their relation can capture infon 3. “In cases where [the emergent property] E is a phenomenal property of experiences (a “quale”), we may have no idea what E is like before we experience it” (Kim, 1999, p. 8). Kim notes in footnote 12 (Kim, 1999, p. 34) that this is the point made by Frank Jackson in his paper What Mary Didn’t Know (Jackson, 1991). In this paper, Jackson argued that the neuroscientist Mary can have no proper understanding of the colour red until she experiences it – no amount scientific research can accurately give Mary a full understanding of red, she must experience it. This is important in that the unpredictability of emergent phenomena does not mean that its occurrence cannot be anticipated, rather that the specifics of experience cannot actually be predicted until experienced.

So, cashing out JohnR in terms of the unpredictability of qualia may show that JohnR is an emergent entity. However, why speak of new information in these terms? The reason is that JohnR is describable in informational terms. Catie’s experience of John is the result of perceptual and cognitive processes, converting the world state of John into a form that is usable by Catie. JohnR is composed of infons, which themselves are constructed from perceptual data that have been cognitively processed such that they are ordered, meaningful and true. The larger point is that is that identity and information bear a strong relation to each other. This point is returned to in Chapter Six.

5.8 The Aggression Gene Revisited: Multirealisability

This chapter started with a brief discussion of the MAOA gene as an example of controversial information. On one hand, the identification of the MAOA gene represents scientific investigation, ideally an objective pursuit of knowledge about the world. On the other hand, the MAOA gene represents an instance of ‘ethically charged’ information, a case of Western science perpetuating and deepening racial prejudice. A central factor in the two positions is that information is multirealisable. The trope of

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284 I recognise that Jackson has amended his view about what conclusions can be drawn from What Mary Didn’t Know, in particular, a shift from epiphenomenalism to indirection realism, (Jackson, 2003). However Kim’s point about emergence as a novel experience should still hold.

285 Elsewhere, I have identified a different factor, concept creep (Henschke, 2010).
scientific investigation considers reports on the MAOA gene as message information, thin and inert. It is simply ordered data and nothing more. Neither the source nor the destination is considered relevant to information.

However, as this chapter presents it, information can be understood beyond ordered data. Information is reactive, and when different infons are integrated, new information emerges. When encountered by people, reports on the MAOA gene are interpreted and integrated into their cognitive networks. Reporting on the MAOA gene can become pseudoinformation, in the form of incomplete information. When we have simplified genetic explanations for complex behaviours, like the MAOA ‘warrior gene’, and genetic shortcuts for complex social relationships and phenomena like family and race, we reduce complex individuals to simple single genetic identities. The explicit links noted by Alia-Klein et al between MAOA and severe childhood stresses (Alia-Klein, Goldstein et al., 2008) get lost in the translation from scientific reporting to public communication. Suddenly a rich and complex individual and their particularly relevant personal history become reduced to ‘warrior gene.’

Further, when the aggressive variant of the gene is correlated with character traits like aggression, gang membership and particular behaviours like weapon use, we have a larger range of data to interpret. For some, coupling the scientific source of the message with the existing social beliefs that certain ethnic groups are violent gang members, the ethnic message becomes knowledge. ‘This group is scientifically shown to be aggressive.’ For others, coupling the message to complex behaviours and the message is rejected. ‘This is another example of Western science reinforcing prejudice’. This is because information is more than data and order, it is meaning and knowledge. And with different personal histories and different understandings of the world, the MAOA gene is different information to different people. It is multirealisable. That is, the information changes depending on who is using it and how.

So what? Information may be multirealisable, understood and used differently by different people, this may be true. However, this is trivial. A hammer is multirealisable – it can be used to nail nails or kill a person. What is the relevance of talking about information in such a way? The answer is that certain types of information are more ethically important than others. Personal information, for example. The next two chapters show what I mean by personal information and why it is ethically important.
Chapter Six: On Identity And Information

6.0 Identity And Information

Building from the conceptual work in Chapters Four and Five, this chapter brings identity and information together. It explores the relation between identity and information to argue that identity and information are in a relation of mutual reciprocal causation; they both importantly influence each other. Given that identity and information are mutually causal, I propose the idea of the ‘identity/information dyad’. This identity/information dyad is introduced by reference to different responses that individuals have to a medical test for a particular genetic disease, Huntington’s disease. §6.2 presents evidence that information forms identity, and in §6.3, that identity forms information. §6.4 then discusses the general idea of a dyadic relation, and §6.5 and §6.6 explicate the conceptual elements and processes of this particular dyadic relation between identity and information. The concept of explanatory priority is used in §6.7 to explain why people would favour identity over information to explain different phenomena and vice versa. The conclusions are that the identity/information dyad is a useful tool for drawing attention to the importance of the relation between identity and information, and for analysing how they impact on each other.

This chapter argues against a strong reductionist approach to either identity or information as the causal element in the development of the other. The analysis of both identity and information together benefits us as this dual analysis offers a way understanding how people live and understand their worlds, than we get by looking at identity or information independently. In line with Chapter One, the motivation for this investigation into the relation between identity and information is the increased role that information plays in how people live and understand their worlds. Both privacy and ownership were shown to be lacking in their capacity to respond to new technologies that produce and use information. Chapter Seven moves to the ethical importance of this relation between identity and information, and draws attention to the impact that identity and personal information have on in how people live and understand their worlds. A focus on information is morally important, because of the increasingly important role that information is playing in our life. The role that information plays in our lives needs to be understood, and a key conceptual tool in this understanding arises from an exploration of the relation between identity and information.
6.1. What Causes What? The Case Of Huntington’s Disease

Consider Huntington’s disease, a progressive neurodegenerative disease that results in profound cognitive and behavioural decline for sufferers, typically later in life. Huntington’s disease has a particular known genetic cause, and as such, predictive genetic testing exists to identify individuals years before the onset of the earliest symptoms of the disease. Importantly for this example, while the current state of medicine can diagnose Huntington’s disease with a high degree of accuracy, there is little that can be done to prevent or treat it. That is, once an individual is diagnosed, they cannot prevent the disease from developing, and can do little to minimise its symptoms.

Despite the existence of these tests, only 5% of individuals at risk opt to use predictive genetic testing for Huntington’s disease (O Walker, 2007, p. 220). Why do so many people opt not to know if they will develop the disease, and why do some – albeit a small proportion – opt to know? While the psychological motivations are undoubtedly broad, varied, and complex, identity presents one useful way to frame differentiated responses to information.

Firstly, finding out this medical data speaks to one’s future, and will have a major impact on the person’s Self-Regarding Identity; how a person views themselves in the future plays a major role in their present and how their character develops. Catriona Mackenzie argues that the ability to imagine different selves in the future is ‘crucial’ to self understanding and self development (Mackenzie, 2000). Knowing that they have Huntington’s disease can substantially close off the range of selves that a person imagines for themselves. The desire to be free of that knowledge may indicate a desire to maintain one’s ‘open future’:

For many people, the discovery that they have a genetic condition that places them at a high risk of suffering certain untreatable diseases could so depress them that quality, joy and purpose of their lives would literally evaporate...Therefore it seems reasonable to allow these people to choose not to receive that potentially harmful information and to continue their lives in peace (Andorno, 2004, p. 435).

Information in this sense plays a central causal role in Self-Regarding Identity, through the affect it has on one’s capacity to imagine way they extend into the future.

However, not knowing about important medical data seems to sit in contrast to the role that knowledge plays in autonomy and medical decisions. “Personal autonomy

286 Huntington’s disease is also known as Huntington’s Chorea. Francis O Walker provides a good overview of the disease, covering many of the medical, scientific and social elements of the disease (O Walker, 2007).

287 The discussion implies different senses of the word gene. I have spoken more about what concepts ‘gene’ can refer to elsewhere (Henschke, 2010).
is, at a minimum, self-rule that is free from both controlling interference by others and from limitations, such as inadequate understanding, that prevent meaningful choice” (Emphases Mine, Beauchamp and Childress, 2001b, p. 58). In order to make meaningful choices, 5% of people opt to know their Huntington Disease status. As was argued in §5.7, information is multirealisable, in part because the meaningfulness of data varies from person to person. For some people, the information about their future may be a limiting factor in self development, but for others, genetic data about Huntington’s Disease means something different. And this multirealisability arises because of the different personalities of the people processing the data. The Self-Regarding Identity, in particular a person’s existing cognitive networks, 288 causes the information to be different as a result of the different meanings that different people attach to the same sets of data.

However, we now have a tension. 289 The explanation why some opt out of knowing whether they carry the Huntington’s sequence was that the genetic data may negatively impact on their Self-Regarding Identity. For those that opt to know, the explanation offered was that the data has a different meaning because of variation across different people’s Self-Regarding Identity. The reason offered for opting out is because information plays a major causal role in Self-Regarding Identity formation, while the reason offered for opting in is because Self-Regarding Identity plays a major causal role in how the information is constructed. A similar set of tensions can be developed for Other-Regarding and Other/Other-Regarding Identity. So what is it – does information cause identity, or does identity cause information? My answer is both: each plays an important causal role in the other. In order to understand one, we need to understand the other and to recognise the relations between them. 290

To explain this claim, consider discussions about the causal role of artefacts, from philosophy of technology. In those discussions, questions are asked such as “[d]o artifacts act? Should agency be assigned to them in account of social change? Or are the

288 Recall from §4.3 that I use ‘cognitive network’ to refer to the set of neurological and mental networks of the agent, including both affective or emotional states, and states that we are conscious and not conscious of.

289 I also want to call attention here to the fact that the questions of opting in/out are the result of technological innovations: “The discovery of such mutations, therefore, transforms healthy people into potential patients…When this sort of technology is used, therefore, it organizes a situation of choice” (Verbeek, 2011, p. 5). This point is the same as the ethical vacuums, described in §1.3.

290 This is a similar concept to the Hegelian dialectic, mentioned in §3.3. However it is a particular form of dialectic, in that I am not saying that each element of the dialectic is revealed by the other, or that each create the other, but that each continuously and mutually influence the other. I call this a dyadic relationship, and explain it in detail in §6.4.
only social agents human beings and social structures like groups and organisations?” (Brey, 2005). A similar set of questions are being asked here: Does information act? Should causal agency be assigned to information in account of the way it affects identity? Or is it only social agents like humans and their social structures that determine the way information is used? In his paper, Artifacts As Social Agents, philosopher of technology Philip Brey proposes a model whereby artefacts and social constructs both play important roles in how people live and understand their worlds.

Bringing up the discussion from philosophy of technology serves two purposes. It shows that the idea of mutually causal relations has precedent. This point is relevant to the claims made here, and the argument is strengthened with evidence that such an approach is not too controversial. Secondly, one of the key elements of this thesis is to argue that, given its causal role in identity development, personal information is a morally relevant feature that requires analysis. However, perhaps the idea of a non-agent, non-real thing having some causal role may seem to miss the point of ethics: Only agents like humans have choice, so we should focus our moral judgments only on such agents.291 Discussions of agency of artefacts (albeit a highly constrained sense of agency) helps show that such an approach is not too controversial.

Further, the discussions of agency of artefacts is more than mere explanatory analogy. The central problem that this chapter is addressing, at its core, is the same as the discussions of artefactual agency: what causal role does information play in bringing about particular identities, and what causal role do identities play in forming information? My answer is equivalent to that of Brey: The proposed identity/information dyad demonstrates and explains that identity and information both play important mutually causal roles in how people live and understand their worlds. Philosophy of technology presents a comparable theoretic foundation to information in that technologies and information are not agents but have something like causal agency.

This chapter explains the claim of mutual causation by explicating the type of relation that occurs between identity and information. It demonstrates that information forms identity, then how identity forms information. This is explained by reference to the special type of relation that occurs between identity and information – a dyadic one. Providing the key elements within this dyadic relation, the details as to cognitive processes underpinning this relation are given, to conclude by showing how the dyadic

291 This sort of discussion can be found in the attribution of moral autonomy to robots, see Heather Roff (Roff, 2013).
identity/information relation can explain a phenomena like differential responses to opting in or out of knowing about Huntington’s disease. The following two sections present two complementary points, in §6.2 that information forms identity and in §6.3, that identity forms information.

Before beginning, recall that Chapter Four presented a general account of identity as ‘X perceives Y to be Z’, written alternately as ‘identity is who X perceives Y to be’. When a person thinks about themselves, they develop their ‘Self-Regarding Identity,’ §4.5.1, from the combined information that they relate to their selves. When a person thinks about others, they form an ‘Other-Regarding Identity’, §4.5.2, from the combined information that they relate to the other person and that the values of a given society inform how a person views another, called ‘Other/Other-Regarding Identity’, §4.5.3. Chapter Five presented an account of information as ordered, meaningful, true data, §5.2 – §5.5. When integrating different units of information, infons, new information emerges §5.7 and §5.8. For particular types of information, the new information that emerges is experienced as an identity.

### 6.2 Information Forms Identity

This section focusses on information forming identity. It presents the concept of epistemic group action, showing how epistemic group action is relevant to identity and then stating the central role that information plays in the process of identity construction. Here, a strong view of information as playing the major role in causing identity is presented. This attribution of agency to the artifact alone is justified because the artifact functions as the *major independent variable*. That is, whereas the agency is dependent on other variables as well, that are found in the environment of the artifact, the artifact itself is most directly and specifically linked to the changes that occur (Emphases Original, Brey, 2005).

Similarly, an ‘informational causation’ would hold that, in the formation of identities, it is information that is the *major independent variable*, as it is the information itself which is most directly and specifically linked to changes that occur in identity. That is, information forms identity.

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292 A strong view here that information ‘causes’ identity is presented here to focus on the causal role that information plays in identity construction. §6.3 develops a similar but oppositional position that identity ‘causes’ information. Referring to these processes as ‘causes’ may strike some as problematic, but this is exactly the point that I wish to bring out, that there is a tension between seeing information as the major causal factor in identity formation, and seeing identity as the major causal factor in identity formation.

293 See footnote above.
Recall from Chapter Four that identity was developed as the way an observer perceives the world, ‘I am who I perceive myself to be, you are who I perceive you to be, etc.’ The focus on identity in this section is the experience that the given observer has of some thing or person in the world, such as JohnR, the emergent representation of a person discussed in §5.7. Insofar as phenomenology is the experience of something, the experience of the thing observed is called a ‘Phenomenological Identity,’ considered in contrast to the pre-experienced identity of the thing in the world, a ‘Natural Identity.’ These terms are explained in detail in §6.5, in particular, in table 6.1.

6.2.1 Epistemic Group Action
An epistemic action is an action that is conducted to bring about information. David Kirsh and Paul Maglio describe epistemic actions as “[a]ctions designed to change the input to an agent’s information processing system. They are ways an agent has of modifying the external environment to provide crucial bits of information” (Kirsh and Maglio, 1994, pp. 541-542). Andy Clark marks the distinction between pragmatic actions and epistemic actions in which pragmatic actions “are actions designed to bring one physically closer to a goal. Walking to the fridge to fetch a beer is a pragmatic action. Epistemic actions may or may not yield such physical advance. Instead, they are designed to extract or uncover information” (Emphasis Mine, Clark, 2008, p. 71). An epistemic action is defined by its purpose, which is to bring about new information.

Seumas Miller describes a joint action as “actions involving a number of agents, performing independent actions to realize some common goal” (Miller, 2010, p. 37). Epistemic group action, then, is action intended to bring about new information, conducted by multiple agents. It is a situation whereby a set of individuals work towards a common epistemic goal. Their actions include the collection, aggregation and integration of data done with the common purpose of producing new information.

A paradigm example of an epistemic group action would be a police investigation, involving different investigative teams, with the common goal to identify a burglar. Group A collect and analyse evidence from the scene, Group B question witnesses, Group C compare the current crime to previous crimes, and Group D question likely suspects. Following their epistemic actions, Group A deduce that the

294 I have discussed elsewhere ways and reasons for understanding full actions by reference to their intended aims (Henschke, 2012).
295 This example of a criminal investigation as an epistemic group action arises from a description by Seumas Miller of the investigation and identification of Peter Sutcliffe, a British serial killer also known as the ‘Yorkshire Ripper’, (Miller, Forthcoming). I have spoken about it elsewhere, (Henschke, 2010).
burglar acted alone, was tall and strong enough to climb the eight-foot fence and in through a window, and probably a male. Group B hear from a neighbour that a red van was parked out the front of the house during the time of the burglary. Group C find out that a series of burglaries have occurred within the area, seven of which were similar houses, similar times, and similar things stolen. Group D find out that there are five local suspects, and of these, one was in jail, one was in hospital, one was visiting his mother, one was out of the country and one had no alibi. By bringing these four groups together – the description of the crime, the witness testimony, the previous crimes, and the location of likely suspects, the set of detectives deduce that the most likely person to have committed the burglary is the final suspect. A fifth group of officers, Group E, go to the suspect’s house and find a red van, a pile of stolen goods from the given crime and previous crimes. As a result of the epistemic group action, the suspect has been identified as the burglar and is charged with the crime.

The purpose of this epistemic group action has been to identify the culprit. That is, the burglar’s identity was not known to the investigators before the investigation, but through investigation and aggregation of information, the investigating teams come to know who the culprit is. Now that they have information as to who the culprit is, a claim of relative equivalence is being made between the crime and the culprit. The new set of knowledge, experienced by the investigators as relative equivalence between a given Phenomenological Identity and some Person In The World, is new information to the investigators. This Phenomenological Identity is new in that it was not known to the investigators who the burglar was. As was discussed in §5.7 and §5.8, this is new, emergent information.

Central to producing the Phenomenological Identity is that the teams communicate with each other about what information they find, that the information is aggregated. The importance of such intergroup communication was highlighted in the U.S. in early May, 2010. On the 1st of May, 2010, someone made an attempt to detonate a car bomb in Times Square in New York. The integration of small pieces of information led to the identification and subsequent arrest of Faisal Shahzad on the 3rd of May 2010 as he tried to leave the U.S. Mr Shahzad was identified via the integration

296 The identity was not known to the investigators, or the community at large. Presumably, the burglar knows that they are the burglar. I mean here to refer to the identity of the burglar being made known to the investigators due to the epistemic group action. This builds from the point made in §5.7 about new information.
of a vehicle number, a phone number and personal information provided by Mr Shahzad to an airline company upon entry to the U.S. (Baker and Shane, 2010).

The point here is that Mr Shahzad was identified through the communication, integration and aggregation of information from different investigative teams. The relative equivalence between a set of knowledge and Mr Shahzad was produced as a result of an epistemic group action, facilitated by groups communicating what information they had. As in the initial burglar case, the Phenomenological Identity of the culprit was constructed as the result of epistemic group action. The culprit’s identity emerged from the integration of information. The epistemic group action produced information which identified the attempted car bomber. The epistemic action, in particular, the aggregation of information produced an identity.

6.2.2 Individual Epistemic Action And Identity

Returning to the initial example, instead of five investigative teams, A, B, C, D, and E, consider now one lone officer investigating the burglary. Instead of the teams producing the information about the crime, the lone officer conducts tasks A, B, C, D and E. Like the group investigation, the lone officer goes through the epistemic actions and ultimately identifies the culprit. Functionally, the lone officer’s investigation is equivalent to that of the group investigation, as the lone officer conducts a set of epistemic actions that are functionally equivalent to that of the group investigation, with the same outcome; the lone officer gets some knowledge from the emergent information that a given person is equivalent to the culprit. This emergent information is experienced by the lone office as a Phenomenological Identity.

Now consider that the case is an old one that someone is pushing to have reopened. All the necessary information to solve the crime had been recorded and is accessed by the lone officer. The necessary files have been located, now the lone officer sits down to read them. All the relevant files are read, and by integrating the relevant information, the Phenomenological Identity of the culprit emerges. Again, functional

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297 In a contrasting case, the investigation of the Yorkshire Ripper, Peter Sutcliffe, was substantially delayed as a result of not integrating important facts of the case. See Wicked Beyond Belief for a description of the Yorkshire Ripper investigation (Bilton, 2003).

298 To reiterate a comment made at the end of §6.2, I recognise here, especially with regard to Phenomenological Identity, that the use of different senses of identity may be unclear. Table 6.1 and the definitions that go with it should help explain this term. However, in order to show that there is a tension between identity and information, I have opted to use §6.2 and §6.3 to pose the problem, before offering my solution.

299 This is a reference to functional equivalence. For more on this see Andy Clark and Jonathan Glover (Clark, 2008, pp. 196 - 217; Glover, 1988, pp. 85 - 87).
equivalence holds that we would hold the group investigation and the lone officer to be conducting a set of epistemic actions that are equivalent.

In a further example, consider that instead of the lone officer actively producing the information, and instead of the lone officer merely reading the relevant files, a computer program has been developed, called SuperSnooper. In this example, SuperSnooper conducts the necessary epistemic actions to identify the culprit. All the relevant police officer has to do is read the identity from the screen. Note the similarities between the group investigation, the lone officer and the computer. If, in all situations, (a) all the incoming information is correct, and (b) the culprit identified is in fact the perpetrator of the crime, we have functional equivalence between the investigating group, the lone officer and SuperSnooper. The relevance of the SuperSnooper program is that we can, and do, use data aggregation programs to construct identities for people, a point raised in the discussion of virtual identities, §4.7.

Again, insofar as we are looking at how an investigation of a crime identifies the culprit, the identity is produced as a result of a set of epistemic actions. In each case the Virtual Identity was produced as the result of multiple epistemic actions and experienced, in all but the SuperSnooper case, as a Phenomenological Identity. In each case, information was central to producing the Phenomenological Identity of the culprit. In the case of Mr Shazhad, it is unlikely that any individual piece of information alone would have identified him. The relation of relative equivalence between him and the culprit was produced by the process of epistemic group action, necessarily dependent upon the integration and aggregation of different sets of information.

6.2.3 Neurobureaucrats And Information

Consider now a form of epistemic group action where the individuals within the group are not people, or a person considered through time, but neurons involved in the production of information. In the neurological construction of identity, many neurons

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300 This might involve SuperSnooper analysing the existing police files for likely connections. However, the program could be more active in the world in that engages in internet searches, monitors CCTVs, sends drones, etc. to collect the initial information about the crime scene, particular people’s movements etc. This is no mere hypothetical either, consider the U.S. ‘Total Information Awareness (TIA) Project,’ which “sought to create a giant network of integrated computer technologies for intercepting, storing, searching, monitoring, reading, and analysing all private, computerized records of 300 million Americans” (Cohen, 2010, p. 21).

301 This claim is dependent upon the premise that conscious agents like humans experience things, while computers, as they do not (yet) have the capacity for conscious experience, so cannot form a Phenomenological Identity. Perhaps in the SuperSnooper case, it would instead be a pre-Phenomenological, Virtual Identity.
are used to shuttle data around, in order to produce the integrated identity that people experience. On this ‘neurbureaucrats’ model, many neurons and neural populations act like bureaucrats. That is,

many neurons and neuronal populations serve not as direct encodings of knowledge or information but as (dumb) middle managers routing and trafficking the internal flow of information between and within cortical areas. These “control neurons” serve to open and close channels of activity and allow for the creation of a kind of instantaneous, context sensitive modular cortical architecture (Clark, 2008, p. 117).

Clark’s account describes what was introduced in §4.2 as cognition, thoughts about thoughts. It is a process whereby many neurons and neuronal populations are not involved in the direct collection of data about the world, or responding to the resulting information. Rather, the neurons’ role is in the transfer and communication of data to produce information: this cognition is epistemic group action at the neurological level. Like bureaucrats, neurons are engaged in group action, but rather than paper shuffling and human resource management, the neurons and neuronal populations role is the production of information. And like the police investigators described in §6.2.1 and §6.2.2, the end result of the epistemic group action is the production of an identity for a given object. Emergent information is produced as a result of cognitive activity.

§4.2 and §4.3 described the neural processes associated with Phenomenological Identity production, and §5.7 recast identity production in informational terms. Catie’s experience, JohnR, of seeing John emerges from the integration of different data about the world. To produce an abstracted emergent identity, we don’t see eyes, nose, hair colour, head shape etc. We experience our friend as an integrated whole. Chapter Five argued that this was an emergent entity, a cognitive experience arising from the integration of different sets of information to produce the experience of John. Following Clark’s description of a neural bureaucracy, the experience of a friend, the emergent Phenomenal Identity, is the product of epistemic action of groups of neurons, including the neurbureaucrats.

This informational foundation of Phenomenological Identity applies not just to the experience of others, but also to Self-Regarding Identity. This claim about Self-Regarding Identity emerging from epistemic action is found in studies on infants and robots, discussed in relation to individuation, §3.3 and the origins of the self, §4.6.
Regarding Identity arises as the result of neurobureaucratic processing of data, integrating data from different sources to produce a coherent and stable identity.\(^{302}\)

Whether it is the production of Other-Regarding Identity or Self-Regarding Identity, the claim is that Phenomenological Identities are produced through the processes of epistemic group action. And from this, we see that information is a central element in identity formation. Like a team investigating a crime, a person’s neurons act in concert; ordering data, giving it meaning and judging its truth against other data sources. If the information is to change, the Phenomenological Identity will change. In short, the experience of an identity for some person in the world emerges as the result of group actions that are epistemic in their function. That is, information forms identity.

### 6.3 Identity Forms Information

Contrasting the previous section, this section shows the important causal role that identity plays in information construction. The three different elements of identity introduced in §4.5, Self-Regarding Identity, Other-Regarding Identity and Other/Other-Regarding Identity are brought back. Identity, whether Self-Regarding, Other-Regarding or Other/Other-Regarding plays a central role in the construction of information. The strongest interpretation of this claim sits alongside a strong\(^{303}\) social constructivist line of reasoning where “[s]ocial representations are not just claimed to play a major role in the constitution of agency, they are claimed to fully determine it” (Brey, 2005). Likewise, to paraphrase Brey, ‘identity forms are not just claimed to play a major role in the construction of information, they are claimed to fully determine it.’ The subjective constraints posed by identity are the major independent variables in what and how data is ordered and made meaningful and truthful. That is, identity forms information. This is in direct contrast to §6.2. Discussion of the two contrasting views is taken up in later sections of this chapter.

#### 6.3.1 Self-Regarding Identity And Information: On Expertise

In *What Is This Thing Called Science*, Alan Chalmers describes a person looking through a microscope and seeing some biological material (Chalmers, 1999, pp. 7-9).

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\(^{302}\) Note the overlap here between the stability arising from time-locked multimodal sense data and the coherentist account truth judgments offered in §5.5.

\(^{303}\) The strong view that identity causes information is presented here to focus on the causal role that identity plays in information formation. Later sections of this chapter develop a less deterministic approach.
Chalmers contrasts a novice and an experienced biologist looking at the same slide under a microscope but seeing different things:

When a beginner looks at a slide prepared by an instructor through a microscope it is rare that the appropriate cell structures can be discerned, even though the instructor has no difficulty discerning them when looking at the same slide through the same microscope (Chalmers, 1999, p. 7).

Chalmers explains this by reference to the different experience levels of the two observers. While the novice can only recognise basic shapes and outlines, the experienced biologist can see what those shapes and outlines represent, can see which fine details are important cellular components and which are merely debris.

§4.3 argued that experience is central to how a person perceives the world. Chapter Five presented a detailed philosophic account of thick information as data that is ordered, meaningful and judged as true\(^{304}\). By integrating the role that previous experience plays in perception with the thick account of information, we can explain how two people can experience the same thing differently.\(^{305}\) If information, as people experience it, emerges from data, order, meaning and truth then varying the order, meanings and truth judgments about a given data set will vary the information. This was the point of informational multirealisability, argued in Chapter Five, particularly §5.8.

The range of semantic possibilities of a given data set varies person to person, and has an impact on the information constructed:

For a novice [chess] player who understands very little about chess, the arrangement of pieces on a board is not particularly meaningful, and the chess board is analogous to an array of letters or shapes. For an experienced chess player, however, piece arrangements are meaningful and are more analogous to scenes (Emphases Mine, Brockmole, Hambrick et al., 2008, p. 1888).

The point is that due to experience changing the range of meanings and truth judgements used in information construction, experience, particularly expertise, changes how a person interacts with data to change what information is produced. Experience ultimately changes the Thick Information that a person constructs from a given data set; information is multirealisable. In a simple sense then, as prior experience is a key element in information formation, the identity of the observer causes the information constructed from a stable data set. From this, the Observer Identity is a necessary element to understanding information. The particular meanings of this ‘Observer Identity’ are given in §6.5. Suffice to say here, Observer Identity refers to the existing

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\(^{304}\) Recall from §5.5 that ‘truth’ is used in a weak ‘folk’ sense. Rather than a strong epistemological claim that true information justifiably correlates with something in or from the real world, truth is used to refer to situations when a person thinks or feels that they are justified that some information correlates with something in or from the real world.

\(^{305}\) This point was mentioned in §4.3 when talking about different experiences of the same wine and food.
cognitive networks of that person doing the perceiving, the observer. Observer Identity is the ‘X’ from the general form ‘identity is who X perceives Y to be,’ §4.5.4.

The cognitive processes arising from experience impact information beyond the altering the range of meanings an observer has at their cognitive disposal. Individual expertise includes more than simply having an individuated range of meanings to scaffold onto data. An expert is often recognised by their ability to rapidly ascribe meaning to some observation.

This can be explained in part by a neurological model of expertise offered by Olav Krigolson, Lara Pierce, Clay Holroyd and James Tananka (Krigolson, Pierce et al., 2008). In their model, a person is exposed to a certain set of stimuli and receives ‘performance feedback’ as to whether they correctly classify the stimuli. Through time, the feedback exhibits reinforcement mechanisms such that the observer develops an internal “set of implicit rules needed to make subordinate level object classifications” (Krigolson, Pierce et al., 2008, p. 1833). When exposed to the positive feedback, a person forms an internal set of representations which afford a faster capacity of recognition for the given stimuli. “As learning progressed, participants who learned to correctly identify the [stimuli,...the high learners...developed a representation that afforded the ability to internally evaluate the consequences of their behavioral responses” (Krigolson, Pierce et al., 2008, p. 1839). Rather than relying on the external fine grained and detailed data, in line with the Reverse Hypothesis Theory (RHT) discussed in §4.2.3, the expert can now rely on internal abstracted representations for a given input, affording rapid cognitive processes.\footnote{The relevance of the RHT to information construction is covered in more detail in §6.3.2.}

Further, other work on expertise suggests that the purpose plays a central role in the development of expert skills. Contrasting expertise with performance and play, “the key activity in the acquisition of expertise is deliberate practice, which they define as appropriately challenging tasks that are chosen with the goal of improving a particular skill” (Emphasis Mine, Charness, Tuffiash et al., 2005, p. 152). On this line, it is not enough that a person merely repeats an action, but that they deliberately repeat the action with a particular goal in mind, altering their practice in pursuit of this goal. Conscious attentive repetition creates the expert, and if the neurological model offered above by Krigolson and others is correct, a key element in expertise is the production of an internal set of representations available to the expert. Expertise correlates with the
range of meanings available to the person and the capacity to quickly access internal representations produced via conscious efforts.

Again, this is the same form of cognitive mechanism by which identity is formed: §4.6.1 spoke to self-endorsement/rejection of given traits. Self-Regarding Identity, I am who I perceive myself to be, arises from the endorsement and rejection of particular traits: Those things that a person identifies strongly with are afforded a stronger place in Self-Regarding Identity than those that a person rejects. Likewise, in expertise, reinforcement of neural associations are utilised to make more rapid assessments of external stimuli via internal representations. Identification of a given input coupled with positive reinforcement creates experts. We have seen that experts see the world differently to novices. A commonly experienced data set becomes strongly associated with a given set of internal representations. Observer Identity causes information not only because the semantic possibilities for a given data set vary based on experience, but also because the given Observer Identity makes certain semantic contents more rapidly accessible than others. Through exposure and repetition, Observer Identity causes information.

6.3.2 Other-Regarding Identity And Information: Define Yourself

§6.3.1 discussed the idea that through exposure, an internal representation for an observable can emerge through repeated exposure and feedback to the given observable. The claim was that Self-Regarding Identity causes information. Recall also from §4.5.2 that Other-Regarding Identity is ‘who X perceives Y to be’ where Y is another person; ‘your identity is who I perceive you to be’. §4.2 introduced the dual process model of perception whereby we interpret our world through two parallel perceptual systems, feedforward processing (FFP) and the RHT. Recall also inattentional blindness, from §4.3.2, whereby observers do not see things that are within their field of vision. Arien Mack states that the research on inattentional blindness “conclusively demonstrates that, with rare exceptions, observers generally do not see what they are looking directly at when they are attending to something else... Under these conditions, observers often failed to perceive a clearly visible stimulus that was located exactly where they were looking” (Mack, 2003, p. 181). The point here is that if an observer’s attention is focussed on one thing, that thing will often determine what data is attended to. By constraining the data picked up, attention ultimately acts as a limiting agent on what information a person forms. This can be explained via the dual process model of
perception, in that the top down representations are guiding the focus of attention. If Catie is looking for John, the internal abstract representation $\text{John}_R$ guides Catie’s attention, leaving her blind to other visual data. In this way, Other-Regarding Identity plays a central causal role in data pick up.

However, the top down representations do more than guide data pick up, as they can also guide how information is constructed, §4.3. Again, we have the abstract representation guiding the processing of the fine grained incoming information. This is what is referred to as global precedence, “in which global information in an image is processed before the fine details and predominates perception” (Kveraga, Ghuman et al., 2007, p. 153). The higher level abstract representation of an observed person guides the data processing. The Other-Regarding Identity drives the observer’s production of information.

Repeating a reference to Kestutis Kveraga, Avniel Ghuman and Moshe Bar from §4.3.2, the high level abstractions do more than guide attention, previous experience and associations shape the perception of people.

[People use these global properties to link the new person with a familiar person in memory (e.g., “who does this person look like”), even if not explicitly. Once a link is found, we automatically project information such as personality attributes to the new person based simply on this analogy (Emphasis Mine, Kveraga, Ghuman et al., 2007, p. 162). Note that these ‘global properties’ track to the high level abstract representations, such as Phenomenological Identities, discussed in §5.7. Again, the Other-Regarding Identity drives information formation.

Finally, the emotional responses that one has to an object will impact a person’s perception of it. This can occur in two ways. Firstly, the increased desire for another thing will change the apprehension of that object (Veltkamp, Aarts et al., 2008). The idea here is that the observer’s perception of another person changes in relation to the observer’s desire. Martijn Veltkamp, Henk Aarts and Ruud Custers’ research looks at how goal motivation affects size perception in objects, concluding that motivation does affect size perception (Veltkamp, Aarts et al., 2008). On this model, the more motivated a person is towards achieving something, the larger that thing appears to the person.

The mechanism proposed by Veltkamp, Aarts and Custers is that given the limited cognitive capacities of people, the more important a given goal is, the more attention is given to it. Further, Veltkamp, Aarts and Custers propose that the mechanism involves top down cognitive processes of RHT. “In the light of this

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307 This was discussed in §5.7 where Catie sees John as an emergent visual representation.
research, it could be the case that other processes in the service of motivation also rely on such a top-down process” (Veltkamp, Aarts et al., 2008, p. 723). Their work implies that the top down processes are general mechanisms. As such, I propose that the observer’s desire for another person will change the observer’s perception of that person. Who the other person is and the way the observer has constructed a Phenomenological Identity for the other person guides the construction of information for that desired person. Again, we see that Other-Regarding Identity plays a central causal role in information construction.

Further to this is a common idea that emotions or affective responses change perception. Studies on the neuroscience of maternal and romantic love relations postulate that the hormone oxytocin plays a key role in these love relations. Both maternal and romantic love relations suppress “not only negative emotions but also affect the network involved in making social judgments about that person” (Bartels and Zeki, 2004, p. 1162). That is, “both romantic and maternal love activate specific regions in the reward system and lead to suppression of activity in the neural machineries associated with the critical social assessment of other people and with negative emotions” (Emphasis Mine, Bartels and Zeki, 2004, p. 1164). Emotions make us judge people and things differently. Maternal and romantic love relations both produce increased levels of oxytocin (Bartels and Zeki, 2004, p. 1162). Recalling the role of truth judgments in information construction, §5.5, the changes in critical social assessment is relevant in that data will be processed differently for someone that a person loves than someone they don’t love. Other-Regarding Identity drives information construction.  

So, we have Other-Regarding Identity guiding data pick up, the meanings associated with a given data set and the truth judgement of a given meaningful data set. In short, Other-Regarding Identity drives information construction.

308 For an overview of studies on oxytocin, see Mauricio Delgado and on its behavioural implications, see H. K. Caldwell and W.S. Young (Caldwell and Young, 2006; Delgado, 2008).

309 Further evidence can be found in experiments that showed that maternal and romantic love can both be stimulated by photos of the loved one (Sharpley and Bitsika, 2010). That is, visualising the loved other releases oxytocin. Oxytocin has many effects on biology and cognition. For instance, oxytocin increases the attractiveness of others (Theodoridou, Rowe et al., 2009) and as discussed, increases trust (Baumgartner, Heinrichs et al., 2008). The hormone changes the perception of incoming data via its influence on semantic content and truth ascriptions. Loving someone produces changes in how we perceive them, and how we respond to them. The differential experience of loved others as ‘positive illusions’ has been long established (Murray, Holmes et al., 1996), producing what is sometimes called the ‘love-is-blind’ bias (Swami and Furnham, 2008). The information constructed from a given data set – changes depending on who that person is. And, given that hormones like oxytocin are released by recognition of the other person, we can say that Other-Regarding Identity causes information formation.
6.3.3 Other/Other-Regarding Identity And Information: I Think What They Think

The third element of identity introduced in §4.5.3 was Other/Other-Regarding Identity, described as ‘who X perceives X* to perceive Y to be’: ‘my perception of others is strongly influenced by how I perceive you to perceive those other people’. Other/Other-Regarding Identity is relevant to information in that the social foundation for many of the meanings associated with others provides the background frames of reference that a Phenomenological Identity is built from, and the thus is the basis for many truth-regarding judgements of others.

Consider the prevalence of implicit racial prejudice in those who do not consciously hold racially prejudiced views.310 If a given group is commonly devalued by society, an observer will often implicitly value them similarly, even if the observer consciously views the marginalised group as equals. For instance Jennifer Eberhardt, Atiba Goff, Valerie Purdie and Paul Davies investigated how perception of race, in particular black faces, can influence individual’s responses to people with black/dark skin. Firstly, they discuss a large body of research that shows that “[m]erely thinking about Blacks can lead people to evaluate ambiguous behavior as aggressive, to miscategorise harmless objects as weapons, or to shoot quickly, and, at times, inappropriately” (Eberhardt, Goff et al., 2004, p. 876). Their research goes further by arguing that “just as Black faces and Black bodies can trigger thoughts of crime, thinking of crime can trigger thoughts of Black people—that is, some associations between social groups and concepts are bidirectional” (Eberhardt, Goff et al., 2004, p. 876). In short, the values that one perceives as part of Other/Other Regarding Identity can influence the behaviour of individuals towards particular individuals and groups, to the point where a given social concept like criminality can then produce thoughts of particular groups.311 The association of a given group with a particular socialised value is more likely to occur with less-frequently encountered groups.312

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310 Evidence for this implicit bias has been long established. (Devine, 1989; Payne, 2001, 2005; Payne, Cheng et al., 2005; Wittenbrink, Judd et al., 1997). Jan Lauwereyns looks at the neural underpinnings of cognitive biases generally, (Lauwereyns, 2010).

311 Note also that the prejudice against a given group may be held by members of the marginalised group itself (Brennan, 2009).

312 As Roberto Caldara, Bruno Rossion, Pierre Bovert and Claude-Alain Hauert show, ‘other-race’ face classifications occur faster than ‘same-race’ faces (Caldara, Rossion et al., 2004). One explanation offered for this is that the abstract representations for other-race faces are less complex than same-race faces (Feng, Liu et al., 2011; Gosling and Eimer, 2011).
The Other/Other-Regarding Identity informs what meanings and judgments are used in the experience of the other person. Bringing the discussion back to information, as encultured values become tightly coupled to particular data, a particular set of meanings is more rapidly associated with a given group. An explanation in line with the cognitive discussion of identity is as follows. The top-down representation is more likely to be used for an other-race face, than same-race faces. So, other-race faces are processed quickly and implicitly, often carrying with them the implicit judgments associated with the other-race group. Building on the availability of given meanings and social valuing, Other/Other-Regarding Identity is central to judgments made about data such as ‘this person is black.’ Again, we find that Phenomenological Identity causes information.

The overall claim being made in this section is that identity causes information. A person’s self-perception is fundamental to how they experience the world, and causes the data that is attended to, the meanings ascribed to it and the truth judgments made about that data. Likewise, the abstract representations for another person play a major role in determining how that person is perceived. The emergent identity for another bears down on what data is picked up, the meanings ascribed to it and the truth judgments made about that data. Finally, the social values commonly associated with others strongly influence how an observer perceives those others. The meanings ascribed to others and the truth judgments made about them is dependent upon the way we think others think about that. In all cases, identity is a major independent variable in information construction.

### 6.4 Dyadic Relations And Mutual Causation

Two seemingly contradictory claims have been presented: §6.2, showed that an experience of identity emerges from group epistemic actions performed by neural cells and processes, to claim that identity was caused in some important way by information. §6.3 presented evidence that information is constructed from the experiences of Self-Regarding, Other-Regarding and Other/Other-Regarding Identity, to claim that information is caused by identity in some important way. Obviously there is a tension here.

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313 This is a similar point to the nesting of information, discussed in §5.6.2.

314 One way of explaining the background causes for this is by reference to enculturation. “[E]ach of us has the values we do as the result of a process of enculturation; that is, as a result of having been brought up in a particular society, in a particular manner” (Levy, 2002, p. 32).
One explanation of the tension is the use of the term ‘cause’. I used ‘caused in some important way’ to draw attention to the tension between the two views. Underpinning the tension is the question of what plays the causal role: is identity the cause of the information that a person forms about the world, or is it information that causes the formation of identity?\textsuperscript{315} An answer to this is both: identity and information play a major role in the formation of the other. They are mutually causal.

This claim about mutual causation is founded on the particular type of relation that occurs between identity and information.\textsuperscript{316} As will be argued, identity and information share a ‘dyadic relationship’ in which each is an element that influences the other. The purpose is to develop a view parallel to that of Brey’s ‘differentiated constructivism.’ Brey posits that the agency of an artefact is found both in the design of artefacts and in the social processes (Brey, 2005). On my view, identity and information both play important causal roles in how people live in and understand their worlds. To show the causal roles that they play this section introduces the concept of the identity/information dyad.

This dyadic interpretation of identity and information has two premises. That a relation holds between the two. Secondly, that this relation is dyadic in form. On premise one, §6.2 and §6.3 showed that there is a relation between identity and information. The two sections presented this relation is a causal one, in that information is one of the key causal elements in identity formation, §6.2, and that identity is one of the key causal elements in information formation, §6.3.

So, given the mutual causal relations between identity and information, a dyadic relation exists between the two. In the Oxford Dictionaries Online, a dyad is defined as “something that consists of two elements or parts” (Oxford Dictionaries Online), and it is precisely this dual element of the relation that the dyadic relationship highlights.\textsuperscript{317} Central to the concept of a dyadic relationship, as it presented here, is the idea of mutual

\textsuperscript{315} Given that I am making a more general claim about the relations between identity and information, for the remainder of this section, I will not specify Phenomenological Identity, Self-Regarding Identity etc. Again, the relations between the different types of identity are explicated in detail in §6.5 - §6.6.

\textsuperscript{316} Chapter Seven points out that this claim holds more or less, depending in part on the type of information considered. The focus of Chapter Seven is that personal information is a type of information that is specially relevant to the identity/information dyad.

\textsuperscript{317} As §3.5 noted, the term ‘dyadic relationship’ has been chosen, rather than use a term like a dialectic relation. The reason for this is that the term dialectic is particular term of philosophic art, which carries with a huge range of different meanings, views and arguments. To clear the discussion space, I am introducing this new term of a ‘dyadic relation’ to focus specifically on what I see of relevance to this thesis: two elements in a relation of mutual causation.
causation. There is a particular ‘whole’ which consists in two elements, each of which stands in a causal relation to the other.

Andy Clark discusses reciprocal causation,\(^\text{318}\) in which analysis of a system with multiple components fails if we look at each component independently of, and insulated from, the other components of that system (Clark, 1997a, p. 163). Clark argues that we should consider continuous reciprocal causation when

the target phenomena is an emergent property of the coupling of the two...components, and should not be “assigned” to either alone...Thus, to the extent that brain, body and world can at times be joint participants in episodes of dense reciprocal causal influence, we will confront behavioral unfoldings that resist explanation in terms of inputs to and outputs from a supposedly insulated cognitive engine” (Emphasis Mine, Clark, 1997a, pp. 164-165).

Clark’s concern, that a person and the world are not mutually isolated from each other and need be understood in relation to each other,\(^\text{319}\) is different to mine. However, the same reasoning holds here – the behaviour that we are attempting to explain is concerned with how an agent recognises and responds to other agents and ultimately how people live in and understand their worlds. In order to explain this relation, we need to recognise a dyadic relationship between identity and information.\(^\text{320}\)

To describe the dynamics of a dyadic relationship, consider first that the elements in a dyadic relationship do not need to consciously communicate with each other. Allelomimesis is the term given to group behaviour, whereby one individual’s actions impact the actions of others in the group, and vice versa, “if I do as others, and others do as I...we all end up doing the same thing” (Deneubourg and Goss, 1989, p. 297). Importantly, this allelomimesis can produce highly complex group behaviours in individuals through very simple processes: a termite will lay a trail pheromone that influences other termites to follow this trail,\(^\text{321}\) thereby communicating to the other termites the presence of food (Deneubourg and Goss, 1989, p. 297). Similarly, many flocks of birds and schools of fish seem to move as one, without any need for communication between individuals. In flocks of birds and schools of fish, each

\(^{318}\) Note that Clark discusses reciprocal causation in a series of different publications. The concept was first introduced and discussed in Being There (Clark, 1997a, 1997b, 2008).

\(^{319}\) A point Clark has substantially developed into what is often referred to as the extended mind theory, (Clark, 2008; Clark and Chalmers, 1998).

\(^{320}\) A counter argument that may arise here is that if this dyadic relation between identity and information is so important, why has not such a relation been discussed before? Chapter Seven puts the argument that given the changes in how we produce, access, communicate and use information, the relation between identity and information is much more important now than it has been.

\(^{321}\) The basic process is that as more foragers find food in a given sector, more pheromones are laid down, increasing the numbers of termites in that sector. As food runs out in the given sector, less ants go there, so there is less pheromone laid down, thus less ants (Deneubourg and Goss, 1989, pp. 300-301).
individual orientates themselves in relation to where the other individuals are. “[P]ositional preference is formulated as a preferred distance to one or more nearest neighbour” (Parrish, Viscido et al., 2002, p. 299). These are all simple examples in which the actions of one element in a group impact on the actions of another, and vice versa: mutual causation.

Consider now a paradigm example of a dyadic relationship: two members of a band ‘jamming,’ i.e. not playing a fully pre-structured song. The guitarist plays a particular melody, which causes the drummer to play a particular beat, which in turn causes the guitarist to play a different melody, and so on. “Each member’s playing is continually responsive to the others’ and at the same time exerts its own modulatory force” (Clark, 1997a, p. 165). In these sorts of relations, the individuals in the group mutually influence each other. Importantly, due to this mutual influence we cannot identify one element as the causal element. While it is easy to understand the concept of a guitarist changing their melody, and a drummer changing their beat, when thinking about the band, we cannot identify ‘the’ causal member. There is no band leader, as each element leads the other. Further, to properly explain the behaviour of the band, we need to understand that both guitarist and drummer are casually relevant. They are dyads, two elements, engaged in mutual reciprocal causation. Instead of physical elements like individual birds or fish, or a guitarist and drummer, the monads (the constitutive elements) of the whole being considered in this thesis are identity and information.

To summarise, the term ‘dyadic relation’ refers to two key points. That the elements in the relation are mutually causal. Secondly, that the understanding of the whole, and the elements in that whole, benefits from recognition of the mutually causal relation. When I talk of the ‘identity/information dyad’ it is exactly these two points that I wish to highlight. Identity and information play important causal roles in the formation, development and construction of each other. Further, if we are to understand identity development, information formation, and how people live and understand information rich worlds, we benefit greatly by recognising this dyadic relation between identity and information. A final point is that the recognition of this dyadic relation is becoming much more important due to the increasing role that information plays in our lives, a point first raised in Chapter One.
6.5 Explicating The Elements Of The Identity/Information Dyad

Simply stating that there is a relation of mutual causation between identity and information does not tell us much about it, nor explain why it is important. This section introduces key types of identity and information that are central to the dyadic relation from previous discussions and §6.6 gives a detailed description of how these different types interact. Underpinning this is that different people will be seeking to understand different things, so different forms of identity and different types of information will take precedence in different people’s analysis, a point covered in §6.7.

If we encounter something in the world, a dog for example, we may be interested in this as a particular dog, or as brown, hairy, mammal, with two eyes, a snout, teeth etc. Think of Michael playing with his pet dog Rupert, and a veterinarian, Michelle who has been asked to treat Rupert. For Michael, he is interested in the dog as a specific entity; Rupert. For Michelle, in order to treat the animal she may only be interested in what breed of dog it is, what size it is, and what it has eaten etc. The two observers are attending differently to the same thing.

Chapter Four described identity as a relation of relative equivalence between two or more things.\textsuperscript{322} Chapter Five described data as difference.\textsuperscript{323} Central to understanding and using the identity/information dyad, we must first decide whether we are concerned with the relations of relative equivalence or difference of a thing. In short, we must ascertain whether we are talking about identity or information. So, when encountering something in the world, an observer like Michael may be focussing on a given thing’s relations of relative equivalence, or like Michelle, another observer may be focussing on a given thing’s relations of difference. While both are concerned with a dog’s health, Michael is attending to Rupert \textit{as} Rupert, so is focussed on the dog’s identity. Michelle is attending to Rupert \textit{as} a patient, so is focussed on information about Rupert.

This is not to say that Michael \textit{only} experiences Rupert’s identity, and that Michelle \textit{only} experiences the information about Rupert, as both processes occur simultaneously. Rather, the point is that some observers will be more concerned with identity and others with information. This is what Clark refers to as “explanatory priority” (Clark, 1997b, pp. 476 - 477), where one set of people is more interested in

\textsuperscript{322} §4.4.5.
\textsuperscript{323} §5.2.
one set of analytic tools to explain something, while others will be more interested in another.

The two types of analysis can be further discussed at three different levels, the ‘Thing In The World’, the ‘Thing As Perceived’, and the ‘Thing Perceiving’. They are set out in table 6.1, and the particular terms that I will use to describe the dyadic process are explained below the table.

<table>
<thead>
<tr>
<th>Explanatory Priority</th>
<th>Thing In The World</th>
<th>Thing As Perceived</th>
<th>Thing Perceiving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identity</td>
<td>Natural Identity</td>
<td>Phenomenological Identity</td>
<td>Observer Identity</td>
</tr>
<tr>
<td>Information</td>
<td>Thin Information</td>
<td>Semantic Information</td>
<td>Cognitive Network</td>
</tr>
</tbody>
</table>

Table 6.1: Conceptual types in the identity/information dyad.

**Explanatory Priority**

*Explanatory Priority*: ‘Explanatory Priority’ was introduced above, in that two types of attention are being discussed: identity and information. Depending on what is of interest – relative equivalence or difference – we have two ways of conceptualising what is being discussed, identity or information, respectively.

Depending on what is being attended to, a person may be more interested in the relative equivalence of a thing with something else, and the difference of the thing. When considering the ‘Thing In The World’, the thing itself stands independent of whichever classification – relative equivalence or difference – is of concern. Following this, it is reasonable to say that The Thing In The World can be understood as both identity and information. For instance, if an observer sees a dog, then the observer may attend to the fact that this is a dog, i.e., the same as a ‘dog type’, or that this dog is Rupert who has a particular character. However, the observer may attend to the eyes, snout, fur colour etc. i.e., the qualitative differences within the dog itself, information about the dog. This goes to the different explanatory priorities of Michael and Michelle. Michael is focussed on Rupert because he is Rupert, whereas Michelle is focussed on Rupert because he has some abnormality that is making him unwell. The implications of having different explanatory priorities are discussed in §6.7.
**Thing In The World**

*Natural Identity*: ‘Natural Identity’ refers to the conditions of Numeric and Character Identity, considered when independent of/prior to any observer/observation. Think here of a stone at the bottom of a cave, on a planet in some universe without life. The stone is never encountered by any agent with any capacity for observation (however described). This stone however, has an identity: it is the same as itself, and has a set of properties that mark it as unique to other stones. The basic claim here is that things have an identity independent of any observer. In the case of Rupert, he exists, independent of any observation. He is the same as himself, and relevantly similar to other dogs: this is his Natural Identity.

*Thin Information*: ‘Thin Information’ is data and order, independent of/prior to an observer’s ascriptions of meaning or truth. There is a particular set of data about Rupert, what he has done, what his physical states are etc. This is Thin Information about Rupert.

**Thing As Perceived**

*Phenomenological Identity*: ‘Phenomenological Identity’ is a cognitive agent’s experience of the thing. Consider now that the thing is observed by a cognitive agent: Michael sees his dog. The Phenomenological Identity is the experience that the Michael has of his dog Rupert. It is different to the Natural Identity in that it is limited and responsive to the capacities and experience of the cognitive agent.

*Semantic Information*: ‘Semantic Information’ is the thick concept of information as data, order, meaning and truth judgments. Michelle looks at the dog, and gets information about Rupert’s state of health, different to the information that Michael gets when he sees Rupert. It is different to Thin Information in that each observer is using their experience, their pre-existing cognitive networks, to assign meanings to the biological data about Rupert. For instance, Michelle checks the incoming information against what she knows about biology, dogs and Rupert.

**Thing Perceiving**

*Observer Identity*: The ‘Observer Identity’ refers to the set of relevant qualities that we use to talk about the cognitive agent who is doing the observing. This is the ‘X’ of ‘identity is who X perceives Y to be,’ §4.5.4. Michael’s unique relationship with Rupert
is one relevant element of Michael’s Observer Identity. Michelle’s interest in assessing Rupert is one relevant element of a different person’s Observer Identity.

**Cognitive Network:** ‘Cognitive Network’ refers to the cognitive networks that the cognitive agent uses in their perception. This goes to both perception, §4.3, and knowledge, §5.5. The Cognitive Networks would be neurological processes such as those involved in Michael’s compassion to Rupert and Michelle’s assessment of Rupert’s health.

### 6.6 The Identity/Information Dyad: How One Shapes The Other

To describe the identity/information dyad in action, consider a cognitive agent with some background knowledge about the world. They have a set of perceptual capacities allowing them to observe the world and to reflect upon those observations. They have the capacity to discriminate between different things in the world and they have semantic content to fit to the things that they’re observing. As this description of the identity and information interaction develops the relevance of the background mental states, earlier described as cognitive networks, §4.3.2 and §5.5.

Consider a thing in the world and an observer, a common human adult. The Thing In The World is a dog and the observer is Michael. For simplicity, the discussion focusses on a single sense modality, visual experience. The dog is a Thing In The World as described in §6.5: it has a Natural Identity and a set of Thin Information. Assuming that Michael has a cognitive network such that he can discriminate different things in the world, Michael observes this thing, and comes to believe that he is looking at a dog. How?

Firstly, Michael accesses visual data (Sterelny, 1990, pp. 62-80). Following Jerry Fodor, this data is some basic cognitively impermeable representation of the world: i.e. a shape, colours, fine detail. Michael constructs a representation of the dog from the Thin Information. This involves recognition of the particular ordering of the data relations – fur here, eyes here, colours here, overall shape, etc. As the relations between different visual data are established, an ‘infon’ emerges as relevantly equivalent to (a) itself, (b) a general dog concept and (c) Rupert. This is important for

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324 As the discussion of auditory and taste modalities from Chapter Four show, these processes should hold equally for sight, sound, taste, smell and touch. Further, a full Phenomenological Identity will likely emerge as a combination of multiple sense modalities, as stated in §5.7.

325 Or as Jerry Fodor puts it, at this stage of perception, the data is informationaly encapsulated (Fodor, 1983, pp. 64-86).

326 Recall from §5.7.1 that an infon is the term used by Floridi to refer to a ‘discrete item of information’ (Floridi, 2011a, p. 83).
two reasons. Michael is now having a ‘meaningful experience’ of the dog: he has made a connection between this particular experience and the general concept of ‘dog,’ and his knowledge that this set of data correlates with his idea of Rupert. Secondly, presuming that Michael has no reason to distrust his senses, he now has connected semantic content to the data; the dog is now experienced as Semantic Information.

Michael now has Semantic Information and is experiencing an identity of the dog, in particular, Rupert. That is, Michael is making a relation of relative equivalence between the shape in front of him and his knowledge of what Rupert looks like. Following the general description of identity as ‘X perceives Y to be Z’, §4.5.4, ‘Michael perceives The Thing In The World to be Rupert.’ Michael’s experience is not just Semantic Information, The Thing As Perceived is now experienced as a particular Phenomenological Identity, Rupert. The information from the visual experience that Michael is having is coupled with Michael’s cognitive network to produce a Phenomenological Identity for what Michael is experiencing visually. As §5.7, and §6.2 argued, Semantic Information forms the foundation for an emergent Phenomenological Identity.

The next step concerns the integration of this new experience into Michael’s cognitive network. This information ‘there is a dog’ is related to Michael in that he is now thinking that ‘I am experiencing that there is a dog’. The identity of this particular dog is integrated into Michael’s cognitive network. For instance, if this Thing In The World looked the same as Rupert, but Rupert had died a year before, Michael would either reject the idea that he was seeing Rupert, or would question whether Rupert was actually dead. In short, the Phenomenal Identity of the dog informs and changes Michael’s Cognitive Network.

The integration of the Phenomenological Identity into Michael’s Cognitive Network, produces a new information set (Michael’s new Cognitive Network). As argued in §6.2, this impacts on who Michael is: If Michael is seeing Rupert, but Rupert had died a year before, he will either have to change his mind about what he is seeing, change his mind about Rupert being dead, or perhaps change his mind about the capacity of dogs to have ghosts. When a person’s cognitive networks change, we would

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327 This is perhaps similar to a Kantian approach to self-knowledge, in which we have two types of mutually dependent types of self-knowledge, ‘inner sense’ and ‘pure apperception’, discussed by Richard Moran and expanded by Matthew Boyle (Boyle, 2009; Moran, 2001). While this view is controversial, it is beyond the scope of the thesis to discuss it further. What is important is the division between what we actively judge about our senses, the ‘pure apperception’ and the knowledge of our sensations, the ‘inner sense’. This view is complementary to the model of cognition presented in §4.4 and the truth assessments made about data, from §5.5.
say that the Observer Identity has changed. While most of these changes are likely to be imperceptible and/or trivial, some types of information are extremely important to a person’s identity. For instance, Michael seeing a dog that looks like his dead pet may invoke some memory of that pet. Consider now that rather than Rupert being a dog, he is a loved one who Michael thought had died. This Phenomenal Identity would likely produce some strong emotions, and if Michael confronted this person and found out that it is the loved one Rupert and he had faked his own death, it seems fair to say that this would produce major changes in Michael’s personality. His Observer Identity would change as the result of the integration of new Semantic Information into his Cognitive Networks.\footnote{The larger point about particular types of information having a major impact on identity is discussed in Chapter Seven.}

Given that the changes in Michael’s Cognitive Network have changed Michael’s identity, Michael’s capacity as an observer has also changed. Michael will now experience the world differently. Importantly, as argued in §6.3.1., who the observer is changes what information is attended to and what concepts are used as part of developing semantic information for new experiences.

To summarise – incoming Thin Information coupled with existing information (in the form of the agent’s existing Cognitive Network) forms basis of the construction of Semantic Information, experienced as Phenomenological Identities of things observed, which in turn change the observer’s Cognitive Network, which changes the Observer Identity, which changes how they understand new and existing information. Figure 6.1, below, shows how the cognitive process flows from one type of information to the next type of identity and so on.

§6.2 and §6.3 showed that identity and information impact each other. Change the identity, you fundamentally change the information, in terms of the Thin Information that is picked up, but also in terms of the Semantic Information and the observer’s Cognitive Network. Change the information, you fundamentally change the identity, not only the Phenomenological Identity but the Observer Identity.
Figure 6.1: The dynamics of identity on information formation, and information on identity construction. The Thing In The World produces an emergent infon, experienced as an identity for the thing perceived, which changes the Cognitive Network of the Thing Perceiving, which changes the identity of the thing perceiving.

As presented here, this is a highly simplified model of actual perception and cognition. This model suggests a set of cognitive events separated through time. While new brain imaging technologies like fMRIs seem to indicate temporal differences between different mental events, in practice, we don’t experience this temporal spacing between these different events. Likewise, we are typically not going to recognise shifts from Semantic Information to Phenomenological Identity and the integration of this information into our Cognitive Networks. Further, this is a simplification of the brain itself. “A typical brain contains 100 billion neurons, each of which makes electrical connections, or synapses, with up to 10,000 other neurons...about the number of people on 150,000 Earths” (Carlato, 2008). The brain is an amazingly complex organ, and as we learn more about it, we are beginning to realise how complex it actually is and how complex its processes are.

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329 However, this model is informed by discussions from the natural sciences, as evidenced in this chapter by §6.3, and the detailed discussions of the roles of cognition, perception and experience in identity, §4.2 - 4.6.

330 This point about neurological actions occurring before we are aware of them is commonly discussed, and often given some relevance to philosophic discussions, such as arguments about moral psychology (Haidt, 2001; Kennett and Fine, 2009).
The basic aim is to show how identity and information interact, by modelling how the identity/information dyad applies to cognitive processes. The key steps involve the observer encountering The Thing In The World, the conversion of data into Semantic Information, the emergence of a Phenomenological Identity for The Thing In The World, the integration of this experienced identity into the observer’s Cognitive Network, and the resulting changes to the Observer Identity arising from the changes in the observer’s Cognitive Networks.

6.7 Huntington’s Revisited: Explanatory Priority

§6.2 proposed that information causes identity. This can be explained as the result of explanatory priority going to the informational elements of the identity/information dyad: if it is information that is the explanatory priority, then the analysis will focus on the role of Thin Information, the Semantic Information and/or the Cognitive Network.

§6.3 proposed that identity causes information. This can be explained by a focus on the identity elements of the identity/information dyad: if it is identity that is the explanatory priority, then the analysis will focus on the role of Natural Identity, Phenomenological Identity and/or the Observer Identity.

We need to recognise that identity and information play important mutually causal roles in the development of the other. For instance, it is hard to properly explain Semantic Information without recognising the role that the Observer Identity plays in forming the Semantic Information. It is hard to properly explain how information is integrated into a person’s Cognitive Network without recognising the role that Phenomenological Identity plays in informational integration. Likewise, it is hard to talk about Phenomenological Identity without recognising role that Semantic Information plays in producing the particular identity. And it is hard to talk sensibly about Observer Identity without reference to the informational processes of the agent’s Cognitive Network.

§6.1 began with a description of different responses to Huntington’s disease. The discussion was framed by reference to identity which led to a tension between the causal roles of identity and information. The question was asked, ‘does information determine identity, or does identity determine information?’ The answer was both: each plays an important role in the other. We can now see why such an answer is sensible. For those whose explanatory priority is identity, identity plays the important causal role in their analysis of patient behaviour. As such, patients do want to know if they have the
genes for Huntington’s diseases, the reason they opt in is because it is identity that causes what the information is. Likewise, for those whose explanatory priority is information, information plays the important causal role in their analysis of patient behaviour. As such patients don’t want to know if they have the genes for Huntington’s diseases, the reason they opt out is because it is information that causes how their identity develops. The identity/information dyad can explain the different responses.

Consider two patients considering taking a test for Huntington’s disease. The patients have a different set of experiences in that one patient, Mark, places a high value on his open future. Another patient, Fiona, places a high value on reasoning from known facts. In this sense, the Thing Perceiving differs as Mark and Fiona have different Observer Identities. However, both Mark and Fiona are confronted with the same Thing In The World: they both have access to information about a particular DNA sequence, a fact about whether they will develop Huntington’s disease. In the case of Mark, the Semantic Information is informed by his Observer Identity: he wants an open future. If he is exposed to a test result that is positive for the Huntington’s sequence, this will produce a Phenomenological Identity for himself that is closed and narrow, which would integrate badly with his Cognitive Network. As such he opts not to know whether he has the DNA sequence for Huntington’s disease. In the case of Fiona, the Semantic Information is informed by her Observer Identity: she wants to be able to reason from known facts. If she is exposed to a test result that is positive for the Huntington’s sequence, this will produce a Phenomenological Identity for herself that integrates well with her Cognitive Network, as she will be able to plan for the future. As such she opts to know whether she has the DNA sequence for Huntington’s disease.

While overly simplified, there are three related points to be drawn from this. Firstly, changing explanatory priority will change which element is seen as most important in analysis of the patient’s behaviour. If the focus is identity, then identity becomes the chief causal factor in determining how people react to information. If the focus is information, then information becomes the chief causal factor in determining how people’s identity develops.

Secondly, analysis that is strictly reduced to either identity or information loses usefulness. Brey writes that description of differentiated constructivism can “specifically point to the relative contributions of artifacts, social representations, and other structures and processes” (Brey, 2005). The utility of recognising the dual roles of artefacts and social constructivism is that such a model can offer a detailed explanation
of the causal importance of each element, without collapsing one into the other or being so general as to lose sight of the relations. Likewise the model offered here, the identity/information dyad, shows that both elements contribute causally to the development of the other. Such a model offers a tool for analysis that recognises the role of each element, without reducing one element to other, but without sacrificing the explanatory power that each element offers.

Thirdly, this model points to the importance of recognising the relations between identity and information. The upshot of recognising the identity/information dyad is that we can now see that if substantially changing one element, the other element may substantially change. The model of the identity/information dyad is a tool to explicate how these changes come about, and what it means if you substantially change one of the elements. Chapter Seven explores this in detail by focussing on changes to information. In particular, one type of information – personal information – and the moral importance of changes to personal information.
Chapter Seven: On Importance

7.0 On Importance
This chapter’s aim is to make clear why we are morally required to give moral weight to personal information, that is, to give reasons why we should treat it as important. This claim follows Chapter Six that identity and information are mutually causal. Clearly a range of things still need to be argued for this claim. Firstly, what information is problematic here? As presented in Chapter Five, and discussed in Chapter Six, information is data that is ordered, meaningful and judged to be true. Information that meets these conditions alone does not immediately have any impact on identity. The key factor that relates identity to information is that the information be about a person, in some way or another: the explanatory focus is personal information.

§7.2 talks about personal information, how it can be understood in relation to a person as the source of information, or as the target of information. Building from this account of personal information, §7.3 revisits the term Virtual Identity introduced in §4.8. Attention is then given to the development of specific sets of moral arguments about: informational wrongs, §7.4, informational harms, §7.5 and informational distribution, §7.6. §7.7 closes off the discussion, investigating tensions between institutional claims and particular moral bads, to give a general idea of when particular claims to personal information can be overridden. The final chapter then summarises the thesis arguments as a whole to show how the identity/information dyad figures as a practical solution to the moral problems of new technologies, originally identified in §1.1.

7.1 Personal Information For All: The Case Of The Public Jogger
Consider jogging: a series of websites now exist\(^3\) enabling people to collect, store and share personal information about their jogging habits. The site www.endomondo.com offers this description of their services:

Bring your mobile or Garmin device whenever you run, walk, bike or do any other outdoor sport across a distance. While you are out there, your route is automatically tracked together with your distance, end time, average speed, split time, calories burned, and more. If you use a GPS phone, you will be informed about your speed for each kilometer or mile and your effort is tracked in real time sparing you for synchronizing with your computer manually...Users can choose to create a profile on Endomondo.com, which will then host their

\(^3\) For instance runkeeper.com, dailymile.com, endomondo.com.
personal training diary and enable them to challenge their friends...Live tracking also enables your personal fans to follow you live and to send you pep talk messages that will be read out loud to you while you exercise. Users can integrate their Endomondo profile with Twitter and Facebook to auto-post their activities (Endomondo.com, 2012).

§6 of the Endomondo Terms And Conditions state:

You allow Endomondo to anonymise your personal data and then copy, process, use, public display and distribute such anonymised data. Such anonymised data is, when anonymised, no longer considered “personal data”...You give your explicit consent that Endomondo may transfer and make public the content, including personal data, you automatically upload to the Site by using the Endomondo services, unless you restrict such data processing by changing your privacy settings on the Site. Hence, your data will by default be published and made publicly available on the internet from any country in the world upon upload. Notwithstanding the above your e-mail, password to the Site and phone number will not be made public unless you decide to do so (Emphases Mine, Endomondo, 2011).

This technology presents a paradigm example of the way in which convergent technologies afford the production, collection, aggregation, analysis and distribution of personal information. Recalling Chapter One, convergent technologies arise from “the synergistic combination of four major “NBIC” (nano-bio-info-cogno) provinces of science and technology” (National Science Foundation and Department Of Commerce, 2003 See note 9). These convergent technologies produce more information about things and people. Also, these convergent technologies are being developed with the capacity to share information across different technological domains. The Endomondo website is a prime example of this: a series of different technologies, converging through their capacity to produce, integrate, communicate, and store information.

Importantly, and in line with the discussion in §1.3, much of this data seems inert in a moral sense. The production, aggregation and communication of data about someone’s running practices seems totally innocuous: Beyond a limited set of scenarios, someone intentionally uploading jogging information seems to be of little moral concern as it presents little in the way of either problems for rights, harms or discrimination. When viewed independently, in isolation from other information and

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332 This information about someone’s jogging patterns can present some serious risks. For instance, given its public nature, it can potentially be abused by a stalker to track and locate their victim. However, the moral concern about this sort of example is relatively easy to point to, and I won’t discuss the example further here.

333 Recalling §1.4, the three foundations for common morality for this thesis are autonomy/liberty, utility/efficiency and equality/justice.
prior to integration with other information, jogging information seems ‘morally insignificant’.\textsuperscript{334} However, such data is not morally inert.

The reasons underpinning this claim should be a little clearer now: Firstly, jogging information is not simply data. When data is ordered and coupled with meanings and judged to be true, it becomes information, and information can be revealing and powerful. Given the multirealisability\textsuperscript{335} of information, even jogging information has the potential for (at least) three situations of moral concern. Firstly, when integrated with other information, it can be highly revealing of a given individual or group. Secondly, when integrated with other information, it can cause suffering in individuals or groups. Thirdly, it can lead to unequal treatment of people. On all accounts, we have incidents which are of serious moral concern: potential rights violations, morally significant harms and unjust discrimination.\textsuperscript{336} The identity/information dyad establishes the reasons underpinning the moral concern. After spelling out just how the identity/information dyad does this, in §7.8 we see how this is a problem for something as innocuous as jogging data.

\textbf{7.2 What Is Personal Information?}

Personal information is information that relates to a person or group of people\textsuperscript{337} in some way. The ‘relation to a person’ can be considered from two different explanatory\textsuperscript{338} positions. The first explanatory position considers the relation when a person is the source of information. The second explanatory position considers the

\textsuperscript{334} Recall from §1.3.1, and Jonathan Glover and Derek Parfit’s arguments about assessing the moral weight of certain things. Glover presented an ‘argument from insignificant difference’ in which if each individual action or event is morally innocuous, then it would seem to follow that the assessment of the actor or the action as a whole is also morally innocuous. An individual transgression of autonomy is so innocuous that it doesn’t deserve to be included in moral calculations. Or, looking at consequences, the difference that each individual consequence makes is insignificant, so the total consequences must also be insignificant. As pointed out in §1.3.1, both Glover and Parfit take issue with these conclusions (Glover, 1986; Parfit, 1987).

\textsuperscript{335} While Thin Information may be morally problematic for a number of reasons, the focus here is on moral problems that arise when a considering a special type of Semantic Information, personal information. I recognise that there are other information types and uses that are morally concerning. For instance, the dangers arising from the publication of potentially dangerous scientific research (Miller and Selgelid, 2006). However, the focus of this thesis is on a particular set of moral concerns that arise from production and use of personal data.

\textsuperscript{336} For the ease of use, I will simply refer to a single person unless otherwise stated. However, all that is said about an individual person here is applicable to groups of people.

\textsuperscript{337} This a reference to a general form of explanatory priority, from §6.5, as discussed by Clarke (Clark, 1997b, p. 477) where one set of people are more interested in one set of analytic tools to explain something, while others will be more interested in another. This is different to the particular Explanatory Priorities of identity and information introduced in Table 6.1.
relation when a person is the target of information. I call these ‘Person As Source’ and ‘Person As Target’, respectively.

7.2.1 Personal Information: When A Person Is The Data Source

§6.5 presented a list of different elements in the identity/information dyad. One of these elements was the Thing In The World – something that exists independently of a cognitive agent’s experience of it. In ‘Person As Source’, the Thing In The World is a person. Their Natural Identity provides the initial Thin Information to the observer. From this Thin Information, Semantic Information is formed, and experienced as a Phenomenological Identity.\(^{339}\)

To illustrate what is meant by Person As Source, think of Ben, a medical research subject. Ben is given a particular medical treatment; his physiological responses to this treatment are observed and recorded by researchers. Ben is the source of the Thin Information that is processed as part of an epistemic group action aimed at producing knowledge about the particular medical treatment. If Ben was not in the trial then that Thin Information would not have been produced. In this sense the data is source dependent.

Source dependency can be understood as strong or weak. To describe strong source dependency, consider that without Ben, the particular Semantic Information would not exist. Ben’s response to the medical treatment might be highly abnormal and as a result of this abnormality, some medical breakthrough is made.\(^{340}\) The information is strongly source dependent; without Ben’s involvement, this breakthrough would not have been made. If the Semantic Information is unique, the source dependency is strong and the links between the Person As Source and the Semantic Information is stronger.\(^{341}\)

In weak source dependency, a person is the source of Thin Information, but the Semantic Information produced could have been equally formed from another source. Think now that Ben’s brother Barry is also part of some medical research; a large multinational study on eating habits and obesity involving 100,000 respondents. Barry

\(^{339}\) §7.2.2, gives a description of the process of relating information to a target person.

\(^{340}\) The case described is intentionally similar to the famous case of John Moore, who had blood and bone marrow cells extracted as part of routine medical testing. These blood and bone marrow cells later formed the basis of a cell line commercialised by the UCLA Medical Centre. Moore unsuccessfully challenged UCLA’s ownership claims over the cell lines derived from his blood and bone marrow (Everett, 2005, pp. 233-234; Koepsell, 2009, pp. 88-90).

\(^{341}\) §7.4 shows that this grants the source person a stronger pro tanto claim to the Semantic Information produced from the Thin Information. Pro tanto is used to signify that a person has legitimate claim, but one that can be justifiably overridden. This terminology is clarified in §7.4.
is one of 100,000 people in the study, and if he didn’t enrol in this research, it would go ahead without him. It is an example of weak source dependency as the Semantic Information is still dependent upon Barry but only weakly.\textsuperscript{342} Weakly source dependent Semantic Information has moral importance but it is of a different type of importance to the strongly source dependent Semantic Information produced in a situation like Ben’s.

7.2.2 Personal Information: When A Person Is The Target Of Information

In ‘Person As Target’, instead of explaining why we should be concerned about personal information based on the source of the Thin Information, we are now looking at situations where an observer has Semantic Information that targets a person or group of people.\textsuperscript{343} Recalling the different elements of the identity/information dyad, §6.5, target means that an observer has some Semantic Information in mind, which they relate\textsuperscript{344} to a person or group in the world.\textsuperscript{345} The Semantic Information has a target of intentional thought, and the targets I am interested in here are people.

This focus on natural people\textsuperscript{346} is similar to how the European Union regulations on data protection define personal data. They stipulate personal data to be:

any information relating to an identified or identifiable natural person hereinafter referred to as ‘data subject’; an identifiable person is one who can be identified, directly or indirectly, in particular by reference to an identification number or to one or more factors specific to his or her physical, physiological, mental, economic, cultural or social identity (Article 2(a) European Data Protection Supervisor, 2001).

Like the EU focus, the explanatory priority is given to situations where Semantic Information is used to identify a natural person, some human who has been, is, or will be in the world. Person As Target makes the focus of interest in ethical analysis the

\textsuperscript{342} Differences between strong and weak source dependency are a matter of degree. That is, Semantic Information can be more or less dependent upon the source, with no clear boundary between strong and weakly source dependent information. This raises issues of vagueness, which I cannot discuss in depth here. For a discussion on vagueness problems in philosophy see (Sorensen, 2009). Simply, the more source dependent, the more there is a prima facie moral concern about that information.

\textsuperscript{343} As with the rest of the thesis, for the ease of reading, unless otherwise stated, reference will be made to a single person. However, all that is said about an individual person here is applicable to groups of people.

\textsuperscript{344} This can be an active or passive mental process. For the current discussion, it does not matter whether the observer is actively relating Semantic Information to a target person or if the relation comes about through some sub-personal neurological processes.

\textsuperscript{345} In philosophy of mind terms, a person or group of people is an intentional object, “in so far as it is an object for some thinker or some subject” (Crane, 2001, p. 342).

\textsuperscript{346} The term ‘natural person’ is taken from the European Union regulation on Data Protection. It is understood to differentiate human people who have been, are or will be in the world, as opposed to legal persons like corporations. This differentiation, I suggest, is an important point when considering things like ownership claims, as a real person is substantially different from a legal person such as a corporation. I discuss the relevance of this distinction more in §7.4.2.
object of a mental process involving Semantic Information. Referring back to the Observer Identity from §6.5, Person As Target also considers how personal information changes the observer using the Semantic Information: Semantic Information provides the basis for some change in the observer’s Cognitive Networks. This should enter into ethical analysis when the observer acts in morally objectionable ways toward the Target Person as a result of some use of the personal information.

For instance, we expand on an example introduced in §4.7, where Jane is looking at a biography The Identity Of Elvis Presley about the deceased pop star Elvis Presley. The book has a photo of him on the cover that will likely give her some visual experience of Elvis Presley: the book’s cover, a Thing In The World, provides an ordered data set that will likely produce in Jane the experience of seeing a photo of someone, a Phenomenological Identity. Presuming that Jane’s Cognitive Network is such that she knows about Elvis including what he looked like, this photo is personal information. Further, it involves a Person As Target in that the Thin Information causes her to think of a particular person in the world, Elvis. Likewise, each time she reads the name ‘Elvis’, Jane has some mental processes involving Elvis as the target. In this sense, written information calls to Jane’s mind a particular person. A set of ordered data brings about some set of mental processes in which Jane thinks about a person in the world – Elvis is the Person As Target.

Consider now that Jane is reading in the book that Elvis was addicted to prescription drugs. The coupling of the identifier, ‘Elvis’, with some character description like addiction to drugs introduces new personal information about Elvis to Jane. However, in this second case, the information does more than identify the person, it characterises him. Again, the Thin Information of the book’s cover, Elvis’ name, and descriptions of his character etc. are involved in set of mental processes that have him as a target.

347 In Chapters Four and Six I described ways in which identity and behaviour are shaped by information. 348 I recognise that Elvis is dead, so is no longer in the world. However, that should not change the purposes of this description. 349 I realise here that saying something of the form ‘X causes mental process Y’ is fraught with problems. However, it is beyond the scope of this thesis to discuss issues of mental causation. For an overview of these issues see (Robb and Heil, 2009). 350 I note here that the use of the name ‘Elvis’ produces a Phenomenological Identity of a form that mostly relates to Numeric Identity concepts. However, Jane’s Phenomenological Identity relates character attributes to the target. As such the identity concepts I discuss in these paragraphs deliberately shift from Numeric Identity concepts to Character Identity concepts. I have discussed these in more detail in §4.4 and elsewhere (Henschke, 2010). 351 Like the discussion from §4.5.2, this sort of Thin Information relates to Other-Regarding Identity.
As Jane continues to read her book, she reads that Elvis first met Lisa-Marie Presley when she was fourteen, and he was twenty-four. The book’s author intimates that Elvis had sex with the fourteen year-old girl.\textsuperscript{352} Confronted with this, Jane thinks ‘I didn’t know that. I tell you – if I had’ve met him then, I would’ve smacked him in the face.’ In this example, the description of Elvis’ relations with Lisa-Marie produces some change of attitude in Jane, targeted towards Elvis.\textsuperscript{353} Elvis is now the target of identification, characterisation and a particular characterisation that Jane feels warrants some particular response. The book identifies Elvis, a person in the world. With the addition of more Thin Information, he becomes the target for some particular set of actions. As Jane integrates these descriptions, a thicker Phenomenological Identity of Elvis emerges in her mind. Importantly for this section, Elvis, a person, is the target of Semantic Information. Further, Jane’s experiences are responses to a highly structured and convention-dependent set of Thin Information – a book about a person.

The target can be narrow or broad. For instance, the book about Elvis is focussed to one individual – Elvis. As such, we can say that the book has a narrow target.\textsuperscript{354} Consider in contrast a news article that says that Australians have one of the highest rates of adult obesity in the world. In this example, the Thin Information is personal information about a group of people. This target is very broad: it refers to the whole population of a country. The more focussed to a particular person or people, the narrower the target information is, and the more people captured by a given data set, the broader the target information is. Like the strong and weakly source dependent information discussed above, narrow and broadly targeted information vary by degree. And like the strong and weak source dependency, the narrow/broad variation can produce different moral problems.\textsuperscript{355}

These two sub-sections have introduced the idea of personal information as information that relates to a person or group of people in some way, and have described two ways that of relating information to a person: Person As Source, and Person As Target. Note that when talking about Person As Source and as Target, there can be

\textsuperscript{352} I don’t want to imply here that Elvis did have sex with Lisa-Marie when she was fourteen. Rather, I use this example to show how people can use facts to make conclusions about people that can then lead to particular behaviours. The book’s intimation and Jane’s reaction arise from the use of incomplete information, discussed in §5.5.1, with potentially harmful results had Jane met Elvis when he was alive. I discuss the moral problems that can arise from incomplete information in §7.5.3.

\textsuperscript{353} Note how this is an example of how Semantic Information can lead to changes in Observer Identity, as discussed in §6.5 and §6.6.

\textsuperscript{354} That said, given that it also discusses his wife and others, so is not totally focussed to one person. However, the focus is very narrow.

\textsuperscript{355} These are covered in §7.5.
overlap, in that Person As Source and Person As Target may refer to the same person. Recalling the identity/information dyad, identity and information are in mutually causal relations. The two different explanatory priorities discussed in these sections are important and useful concepts that ought to be kept distinct. However, we should recognise that when talking of personal information, Person As Source information and Person As Target information are in a dyadic relation, as described in §6.4.

7.3 Personal Information And Virtual Identity
Revisiting the concept Virtual Identity, §4.8, we see how the identity/information dyad can be used to assessing the role that technology plays in impacting our lives. Virtual Identity refers to a particular type of Thin Information, which affords experiencing the ordered data as personal information. Virtual Identity refers to a set of ordered data, and, given social conventions and the cognitive networks of the observer, that observer is likely to experience the ordered data as an Other-Regarding Identity. In the book about Elvis, he was the subject of the book, a source person. When Jane sees the cover photo, she thinks of Elvis. Upon reading about him, she ascribes particular character traits to Elvis, and changes her attitudes towards him. These changes are the result of her exposure to a Virtual Identity. Given that the Virtual Identity is based on a single person, it is strongly source dependent. Likewise, given that the Virtual Identity is focussed to a particular person, it is narrowly targeted personal information.

Depending on explanatory priority, we may be concerned with the source of the Virtual Identity, or its targets. In some cases, the source and target refer to the same person or people in the world, while in others the source and targets may be different. The question arises – so what? The following sections build a detailed set of justificatory reasons as to how Virtual Identities bear upon people in such a way as to be relevant to concerns of autonomy/liberty, utility/efficiency and/or equality/justice. In short, they give an explanation of how Virtual Identities can impact on how people see themselves and others, by making explicit the moral importance of these impacts.

356 I recognise here that the author is also a source of the data, and so ought to be described as a source person. To keep the discussion narrow, I have focussed only on Elvis. §7.4.2 covers the point that in many cases simply referring to a single person as the source of a Virtual Identity is misleading. Further, multiple sources create complications when considering how we ought to treat particular Virtual Identities. The issues arising from this are covered in §7.4.2 and §7.4.3.
357 Had Elvis lived a different life, the content of the book would be different. However, if the data set was drawn from thousands of people around the world, then the Virtual Identity is weakly source dependent.
Underpinning all of these claims is the identity/information dyad, as explicated in Chapter Six.

7.4 Ethics And Personal Information: Sources Of Wrongs

This section presents three justificatory reasons why we should care about personal information. Three sorts of individual rights claims are presented such that a Person As Source can legitimately advance in regards to personal information: privacy claims, ownership claims and basic respect claims. The explanatory priority here is Person As Source, §7.2.1. Person As Source is focussed on, to see if they have legitimate claims against others using personal information. In keeping with this individual focus, rights expressed as claims feature heavily in the language that is used here. To maintain the focus on the Person As Source, ‘wrongs’ is used to indicate when some individual’s legitimate rights claim has been overlooked or violated. However, in line with the discussion of methodology, §1.4, this is not to say that this section is necessarily deontological in its foundation – a sophisticated consequentialist theory can include rights either as part of its theory, or as part of a pluralistic conception of the good. Further, in line with a threshold deontology, there will be situations where a source person is wronged by the production and use of personal information, but this production and use is justified. Rather than rights as trumps, the rights claims presented should be understood as pro tanto claims that can be overridden. However, as is

358 Parallel to this, in §7.5 ‘moral harms’ is used to identify when a person as target suffers as a result of some use of personal information that relates to them. Talk of moral wrongs coming from rights claims, and moral harms coming from suffering, is meant simply as a rough taxonomic guide such that attention is given to Person As Source and Person As Target, respectively. I do not mean to take any stronger philosophic position about wrongs and harms than that.

359 Philip Pettit is one such example (Pettit, 1988). Such theories can do so by presenting a pluralistic conception of the good that extends beyond the welfarism of utilitarianism. For instance, a “pluralistic theory of the good – one that acknowledges other factors besides well-being having a role in determining the goodness of outcomes...Such a theory will admittedly no longer be utilitarian, but it will still be consequentialist‖ (Emphasis Original, Kagan, 1998a, p. 62).

360 To repeat from §1.4, a sophisticated deontological theory will be concerned with consequences. “Deontological theories are defined as non-teleological ones, not as views that characterize the rightness of institutions and acts independently from their consequences. All ethical doctrines worth our attention take consequences into account in judging rightness. One which did not would simply be irrational, crazy‖ (Rawls, 1971 30). In some situations if a threshold is breached, large goods/harms can justifiably take precedence over individual rights.

361 By pro tanto here, I mean to show that in some situations, we may override a claim, given sufficient justification. Like William (W. D.) Ross’ prima facie duties, “almost all moralists except Kant are agreed…it is sometimes right to tell a lie or to break a promise…[When we do] we do not for a moment cease to recognise a prima facie duty to keep our promise…we recognise, further, that it is our duty to make up somehow to the promisee for the breaking of the promise‖ (Ross, 1930, p. 28). Ross’s point is important in that even if we do override the claim, we owe the claimant some recompense. Following Shelly Kagan, pro tanto is used instead of prima facie, where a pro tanto reason has genuine weight but can be overridden, while a prima facie reason only appears to have genuine weight (Kagan, 1989, p. 17).
discussed throughout, overriding these claims requires justification. I describe each type of claim and explain how the identity/information dyad figures in such claims.

7.4.1 Privacy Claims

The explanatory focus here rests on privacy claims, and shows what role the identity/information dyad can play in appealing to privacy concerns. Recall that Chapter Two argued that accounts like maximising social good, §2.5.2, context relative informational norms, §2.5.4, and the data protection, §2.5.6, would be extended by explicating what was wrong with innocuous information. The identity/information dyad adds to discussion of privacy in two ways. Firstly, the dyad explains why innocuous personal information is a relevant focus of a privacy claim. Secondly, the dyad gives some rough quantifier about how much weight we should give to the source person’s claims.

On the issue of innocuous personal information, recall the jogger example from the start of this chapter: A person willingly posts information about themselves to a publicly accessible website. For the sake of argument, let us say that these posts, in-and-of-themselves are morally innocuous. That is, given that the jogger willingly and consciously posts their jogging data themselves, and that the individual posts are extremely unlikely to bring any harm to the source, a privacy claim about this information seems to be on very weak footing.

Convergent technologies allow for personal data to be aggregated. Aggregated data about a person produces a Virtual Identity aggregating this data produces new information. When the individual posts are brought together they can reveal a great deal about the jogger: following aggregation and analysis, a Virtual Identity can be produced that reveals the source’s weight, age, gender, physical location and general health. Given a deeper analysis, the Virtual Identity can reveal things like the jogger’s buying habits – how often they buy running shoes, their personal relationships with others – who accesses their profile and who the jogger engages with online regularly.

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362 Rather than argue for the moral importance of privacy, in this subsection, I show that if one already holds that privacy (or something like it – data protection, for example) as a good justificatory reason to do or not do something, treating like-cases alike, one ought to care about how Personal Information is produced, distributed and used.

363 These arguments are found in §1.1, §4.8 and §5.7.

364 Stephen Baker discusses a host of different forms of data analysis that reveal a great deal of personal information about someone (Baker, 2007).
Further, the data could be used to make predictions about the jogger’s cognitive decline and emotional states. What was innocuous data becomes much more personal.

Innocuous data can become quite revealing when aggregated. As more of a person is revealed by aggregating and analysing Personal Information, a rich and complex Virtual Identity emerges. As a general rule of thumb, the more revealing the Virtual Identity is of the source person, the greater the chances of that information being central to the person’s Self-Regarding Identity, so more care needs to be taken in aggregating, protecting and distributing that information. This general rule of thumb holds that as the amount of intimate personal information revealed by the Virtual Identity increases, other things being equal, there ought to be a parallel increase in the importance of the source person’s privacy claim. For instance, most people would treat a revealing nude photo of a person as warranting a greater privacy claim than a photo of the person’s left index finger.

By establishing the dyadic relation between identity and information, we now have a tool that explains how such innocuous personal data can be quite revealing. Sophisticated data analysis can produce a Virtual Identity that reveals much more than simple jogging information, information that is revealing and intimate. Despite willingly posting their jogging data, it remains to be seen if the jogger has consented to a creation of this new information. In line with privacy being about some controls or limited access to intimate information, a privacy claim now seems much more substantive. The dyad captures the weight of this claim by explaining why we should view personal data in aggregate.

Secondly, Self-Regarding Identity is concerned with who a person perceives themselves to be. A series of accounts in which those things that are strongly identified with are central to one’s self-regarding identity. The basic position here is that the more central a given property is to a person, the more careful others should be with that. This is borne out by a Rawlsian idea that we ought to recognise other citizens as

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365 §1.1 and §2.1 gave examples of predicting cognitive decline from walking patterns, and predicting emotional states from keystroke patterns, respectively. The idea here is that if patterns of repeated physical activity can predict cognitive decline and emotional states, then the jogging data would also be able to reveal the jogger’s decline and emotions. I say if because such predictive analysis needs to be properly verified. However, a privacy claim would still seem to hold if someone is trying to find these things out, even if their conclusions are wrong.

366 This point is further elaborated in §7.4.3.

367 §7.6.2 gives more attention to the role that changing the sort of information plays in ethical appraisal of personal information.

368 As raised in Chapter Four, some of the people who have covered the importance of self-identification to identity, are Harry Frankfurt (Frankfurt, 1988), Bernard Williams (Williams, 1981a), Christine Korsgaard (Korsgaard, 1996, 2009), Jonathan Glover (Glover, 1988), Samuel Scheffler (Scheffler, 1993).
“self-authenticating sources of valid claims” (Rawls, 2001, p. 23). The basic point brought out by Rawls is not simply that we form a moral identity through conscious recognition of core projects, values and relations, but that recognition of this moral identity is a necessary element of a good democratic society. It follows that in a good democratic society, other things being equal, the more central a given thing is to a person, the more that ought to be treated with care.

Think of a person who feels that a set of love letters they wrote to an old flame are important. These love letters have gained some intrinsic value by virtue of the fact that the author identifies so strongly with the love letters. All other things being equal, if we hold that a person’s interests or preferences are important, then we ought to treat those love letters with more care than a note that person wrote to themselves as a reminder that the car registration has been paid. The reason is that though the letters and note are both source data, the love letters would typically figure more centrally to the person’s Self-Regarding Identity than the note about car registration. As such, like the love letters, we ought to treat Personal Information with care, and the more important that information is to the person, the more care others should take when accessing and using that information.

Aggregation, analysis and use of personal information require an increase in the justification needed to override this privacy claim. The justification for this basic rule of thumb is explained by the identity/information dyad: as information aggregation increases, so too will the breadth and depth of the Virtual Identity, and so too there is an increase in the personal information revealed. This affords a richer Semantic Identity, producing a more detailed Phenomenological Identity for observers of the source data.

For these reasons, if one already holds that privacy is, or points to, something of moral value, then one ought also to hold that aggregated source data can produce legitimate privacy claims. Increasing the amount revealed and increasing the importance of the given personal information, there is an increase the need to justify other’s use of

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369 While Rawls may seem like an odd point of authority, consider that he says that a person “may regard it as simply unthinkable to view themselves apart from certain religious, philosophical, and moral convictions, or from certain enduring attachments and loyalties” (Rawls, 2001, p. 22). For many different philosophers, the centrality of traits to a person is a fundamental aspect of how we ought to treat them. Obviously I consider that personal information is important to add to this discussion.

370 This ‘other things being equal’ proviso is important, it is implied in §7.4.1 and 7.4.2, elaborated in §7.4.3. In §7.7 a substantial claim is made that strong identification with a given trait needs to be understood in reference to the justificatory claims for why that trait is strongly identified with, and how acting on such a claim interacts with other people.

371 On this point, insofar as we see that things can have intrinsic value, I agree with Kagan that certain things can gain intrinsic value by virtue of the way that people relate to them (Kagan, 1998b).
this information. However, as this is a pro tanto claim: it can be overridden, as covered in §7.7.

7.4.2 Ownership Claims
This subsection focuses on individual claims to ownership over personal information. Recall from §3.3 that there are three commonly held legitimating reasons for recognising an individual’s claims to ownership; overall good §3.3.1, lockean rights claims founded in labour investment, §3.3.2, and hegelian rights claims founded in psychological individualisation, §3.3.3. The labour investment was the weakest justification as we cannot properly identify how a person ‘mixes their labour’ with things, §3.3.2. Instead, §3.3.3 showed that Hegel’s location of ownership claims in psychological individualisation presented the strongest foundation for a rights claim. Also, recall from §3.5 and §3.6 that individual ownership claims are pro tanto and can be outweighed by other interests.

§3.5 and §4.6.2 said that the personal information which is in most need of ethical oversight are those sets of information about a person or people which have the most impact on how a person feels about themselves and/or is most strongly identified with that person or people. In order to justify claims of ownership over personal information we must seek to identify who will be most affected by that information and who is most strongly identified with that information. The more revealing a Virtual Identity is of a person, the stronger the source dependency and the more important that the revealed personal information is to that source. Relating this back to Hegel, other things being equal, the source person is the most affected and the most strongly identified by personal information. So it follows that Virtual Identities formed from aggregated information give the source person strong claims of ownership over the information the more it relates to them.

Similarly, a non-source individual’s claim to ownership will be less than that of a source person. This is especially important for corporate ownership claims. As Peter Drahos and John Braithwaite note with intellectual property, the original creator is often not the owner of the patent or copyright (Drahos and Braithwaite, 2002, pp. 48, 166, 176). Often, patents on human information like genes, or databases of personal

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372 Like §7.4.1 this subsection does not argue directly for the moral importance of ownership. Rather, it shows that if one holds that individuals do have legitimate ownership claims, then one ought also recognise that a source person has some legitimate claim of ownership over personal information.

373 Recall that §3.5 showed that such social good foundations must take into account the harms that arise from the ownership and use of personal information. These harms are returned to in §7.5.
information will not be owned by an individual, but by a ‘corporate person’ – a legal but not a moral entity. Given that a source person is actually a person, while a corporation is a fiction brought about by legal convention, on Hegelian accounts, the person as source has a far stronger ownership claim over information that relates to them than a corporation. As a result, we either recognise that the source person has a legitimate claim of ownership that outweighs non-source claims, or we refute any moral claims about a natural right of ownership, and instead must go by some other justification such as ownership of that given set of information increases the overall good and has no significant bad consequences arising from production, analysis, use or distribution.374

As with the privacy discussion of §7.4.1, a general rule of thumb is that as source dependency increases, and as the amount revealed by Virtual Identity increases, so to should the source person’s claims of ownership. Further, recalling that, given either a social good or Hegelian foundation, individual ownership claims are pro tanto claims; given suitable justifications, they can be overridden.375

In line with the privacy claims, as source dependency increases, and as the amount revealed increases, so too should the weight of reasons needed to override the ownership claims increase. For instance, consider a jogger’s uploaded information. This is strongly source dependent data, and when aggregated and analysed, it produces a revealing Virtual Identity. Consider a non-source person who produced that Virtual Identity in order to make money out of selling the source-person’s profile to a medical insurance company. Compare this creator with a different non-source person who wants access to that the jogger’s information as part of research program aimed at developing a response to an outbreak of highly infectious virus,376 in which accessing the personal data is an extremely important factor in tracing the epidemiology of the breakout, needed to bring about a rapid response to a developing pandemic. A common sense morality377 suggests that one individual’s desire to make money is of lesser moral importance than reducing the risks of a killer pandemic outbreak.

374 Harms are discussed in §7.5.
375 While this is expressed here as a Hegelian justification, as per the discussion of §3.3.2, for those still committed to a Lockean labour investment type of approach, the same claim holds.
376 A recent example would be the creation of a form of highly infectious, highly lethal bird flu. (Garrett, 2012; Kwek, 2011). At some points it was feared could result in the deaths of up to 3 billion people world-wide, though these mortality figures were later seen to be problematic (Evans, 2012).
377 §1.4 described a common morality as one that recognises the importance of plural values. A common sense morality would then take these plural values into account when assessing a given problem. This decision procedure features in §7.7.
As presented, the creators of Virtual Identities need to be included in ownership claims. So far, attention has been on the Person As Source. However, given the discussion of Chapter Five, information is not simply random data but ordered data, afforded particular meanings. Further, Virtual Identities, as described in §4.8 and §7.3, arise out of the tightly structured and conventional arrangement of source data. This process necessarily involves people. Virtual Identities may be created directly through the collection and arrangement of the data, indirectly through the programming and development of the technologies that collect and arrange the data, through support of those producing the Virtual Identities or some combination of these. The people necessary to the creation of the Virtual Identity also have some claim to that Virtual Identity. For instance, imagine a person in a photo and the photographer. The person in the photo is the source of the data, but the Virtual Identity is similarly dependent upon the photographer to create that given image. Likewise, on Hegelian reasoning, a medical researcher who collects and aggregates and analyses data surely has some legitimate ‘creator’s claim’ to that Virtual Identity. Similarly, a person who designs a set of programs that harvest and aggregate data from the internet has also created the Virtual Identities. How do we balance competing ownership claims between the person as source and the person as creator?

Like source claims, a creator’s claims are pro tanto claims, in that the claims are limited and can be overridden. Bearing this in mind, the identity/information dyad shows that personal information is important to the source person. And if the creator is grounding their claims within a Hegelian system, as shown in §3.3 - §3.5, then any claim the creator makes must also take into account the source person, and any wrongs or harms that might arise from their creation and use of Virtual Identity. Thus, a creator’s rights need to factor in all the moral concerns discussed in this chapter.

Further, an epistemic action necessarily has some intended goal. Epistemic actions were introduced in §6.2, and I have discussed this point in more detail elsewhere (Henschke, 2012).
importance than saving millions of people’s lives, so the artist or businessperson’s claims are less than that of the medical researchers. Further, given the limits of ownership claims, the creator must make significant efforts to respect the privacy of any source people, must go to lengths to gain informed consent from the source people, and there ought to be no significant harms that arise from public release of such a photo or its trade to another group, discussed in §7.5 and §7.6.

Finally, extending from Hegel, the ownership claims are not wholly transitive: that is, if the creator sells the Virtual Identity onwards to a third party, that third party has an even more limited set of ownership claims than the creator. A creator, given that they have attended to the source and target people, might be permitted to sell the Virtual Identity on to a third party. However, that third party is constrained in what they can do with that personal information. §7.7 raises the point that the third party is justified in using the personal information for a given set of purposes and should the third party intend to use the personal information in a different way, they need to justify this new use. All other things being equal, the third party would need to take into account any source and target people, as well as the creator’s interests.

Like the privacy subsection, §7.4.1, the point here has not been to argue for ownership as a foundation for moral claims. Rather, it appeals to those who either believe that ownership is a morally valuable thing, and/or those who seek to locate their own use of and access to personal information in individualised ownership claims. Building from this, if one thinks that ownership is something of moral value, particularly when considering it in an individualised rights form, then, given the identity/information dyad, one ought to also think that personal information is something of moral value. The greater the source dependency and the greater the amount revealed by a Virtual Identity, the stronger the claims of the source person and stronger the justification must be to override the source claims. The claims made about a source person gain legitimacy through the explanation offered by the identity/information dyad: It makes clear how and why personal information figures in a property claim.

379 The justifications for this point about informed consent are located in the basic recognition claim, presented in §7.4.3.
7.4.3 Basic Recognition Claims

The explanatory focus here rests on basic recognition claims. Basically, we ought to treat personal information with care, because of the information’s importance to the source person. For this claim to be viewed as reasonable, three points must be made. Firstly, that people deserve a particular form of respect, recognition respect. Secondly, that recognition and personal information have some relevant relation. Finally, that personal information should, and can, be treated differentially. As with privacy and ownership, basic recognition claims correspond to a pro tanto right, in that they can be overridden but when doing so there must be some justificatory reason. Importantly, even if there is some justificatory reason to override the recognition claim, the claim holder is still deserving of some substantive respect: as we will see, it is this basic recognition that underpins the persistence of the claim holder’s interests in the face of other overriding claims.

The first point, that people deserve recognition respect, builds from a distinction proposed by Stephen Darwall (Darwall, 1977). Darwall argues that respect ought to be considered as two forms of attitude; recognition and appraisal. Recognition respect is something that all people deserve in virtue of the fact that they are people, while appraisal respect is something that a person deserves in virtue of the fact that some trait deserves to be appraised as good.

To say that persons as such are entitled to [recognition] respect is to say that they are entitled to have other persons take seriously and weigh appropriately the fact that they are persons in deliberating about what to do…The crucial point is that to conceive of all persons as entitled to respect is to have some conception of what sort of consideration the fact of being a person requires…Unlike recognition respect, [appraisal respect’s] exclusive objects are persons or features which are held to manifest their excellence as persons or as engaged in some specific pursuit…Such [appraisal] respect, then, consists in an attitude of positive appraisal of that person either as a person or as engaged in some particular pursuit (Emphasis Mine, Darwall, 1977, p. 38).

This sort of claim about recognition respect is common to the individualist strands of human rights dialogue, where “[i]n their typical expression, rights are attractive because they express the great moral significance of every individual human being” (Campbell, 2006, p. 3).

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380 Rather than argue for the moral basis of recognition, in this subsection, I show that if one sees recognition as a good justificatory reason to do or not do something, then one ought to care about how personal information is produced, distributed and used. It is beyond this thesis to argue the general claim of why people ought to receive respect, specifically recognition respect. I assume the position people are important in virtue of being people, and such we generally hold recognition to be morally important. The purpose of this subsection is to show how information figures in such a claim.

381 Appraisal respect and its moral relevance to personal information are covered in §7.5.4 and §7.5.5.
The connection between recognition respect and personal information is as follows. Firstly, the way that an individual constructs Self-Regarding Identity is influenced by Other-Regarding and Other/Other-Regarding Identity: how an individual sees themself is influenced by how others see them, and how they imagine others seeing them. “[M]y discovering my own identity doesn’t mean that I work it out in isolation, but that I negotiate it through dialogue, partly overt, partly internal with others…My own identity crucially depends on my dialogical relations with others” (Taylor, 1994a, p. 34). Darwall writes that “[o]thers may or may not respond appropriately to the presented self. To fail to take seriously the person as the presented self in one’s responses to the person is to fail to give the person recognition respect as that presented self or in that role” (Emphasis Mine, Darwall, 1977, p. 38). Darwall’s claims about a presented self align with a source person and Virtual Identity; a Virtual Identity is one way a person presents themself, and one way that others can form their perception of the person. A key way of responding appropriately to a person is to take presentations of their Virtual Identity seriously and to weigh them appropriately.

What does ‘weigh appropriately’ consist in? This brings us to the third point, that personal information ought to be treated differentially. Following §7.4.1 and §7.4.2, the basic rule of thumb is that the more important a given trait is to a person’s Self-Regarding Identity, the more it ought to weigh in our considerations. Consider that a person, Malcolm can be identified with trait X and trait Y. Malcolm strongly identifies as a member of ethnic group X*, which typically correlates with the trait, skin colour X. Trait X is central to Malcolm’s identity, for him it is one of the prime information sets through which he forms his Self-Regarding Identity. In contrast, Y is Malcolm’s job; he is a labourer. However, differently to trait X, as Malcolm does not care about his job, Y bears very little importance to his Self-Regarding Identity.

In Malcolm’s case, recognition respect would have us weigh X and Y differently. We ought to weigh that X is central to Malcolm’s identity when acting in some way that involves trait X, whereas we need not consider trait Y as carefully. One

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382 This point was made in §4.4 - §4.6 and §6.2 – §6.3.
383 The point here is that skin colour and ethnicity are correlations; variability in skin pigmentation does not ‘cause’ a person to be a specific ethnicity. For more on this see (Haslanger, 2000; Ossorio, 2006; Smedley and Smedley, 2005; Stevens, 2003).
384 The job of labourer was chosen deliberately. For some people, labouring may be some mere means to an end, a way to get paid. However, for others, labouring is valuable job worthy of respect, as evidenced by the ‘working class’ and ‘labour movements’. The point is that a variable trait like one’s job can be valued differently by different people.
385 Note that this also tracks to the basic intuition of treating like-cases alike, and reasonably treating unlike-cases differently, raised in §1.4.
way that trait X is more important to Malcolm than trait Y is that X cannot be changed, while Y is variable: It is no accident that stable traits like race, ethnicity and gender are central to the discussion in Charles’ Taylor’s influential essay *The Politics Of Recognition* (Taylor, 1994a). Race, ethnicity and gender are often central to a person’s self-understanding and figure heavily in discussions of recognition.

One of the most important determinants in this differential importance or value is the nature of the decision and subsequent action in question…Other things being equal, the more central and far reaching the impact of a particular decision on an individual’s life, the more substantial a person’s self determination interest in making it (Buchanan, Brock et al., 2000, p. 216). Likewise, other things being equal, the more central and far reaching the trait is to a person’s Self-Regarding Identity, the more substantial their self determination interest in that trait and the greater corresponding care that ought to be shown to treatment of that trait.  

However, presenting the importance of identity by reference to the strength of self identification risks making a mistake that there is some ‘authentic self’ to be discovered. This sort of thinking holds that “[i]there is a certain way of being human that is my way. I am called upon to live my life my life in this way, and not in imitation of anyone else’s life…Being true to myself means being true to my own originality, which is something only I can articulate and discover” (Emphasis Original, Taylor, 1994a, pp. 30, 31). As Taylor rightfully notes (Taylor, 1994a, pp. 32-33), such a view of an ‘authentic self’ is a misnomer, as our identities are not fully formed awaiting discovery, but developed in dialogue with others.  

Further, an uncritical commitment to certain traits can lead to practical and moral concerns. If we are to take people seriously, as Darwall’s account of recognition respect has it, then I suggest we need to do more than simply identify a person’s central traits: we should also be able to critically reflect on those traits and what they mean for the individual and others. To explain this point, contrast Malcolm with Milcilm and

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386 This also corresponds to Griffin’s account of Human Rights, particularly the roles played by autonomy and liberty in personal development (Griffin, 2008, pp. 142-179).
387 Recall also the discussion of §4.6, about where a self starts and ends.
388 Taylor’s account pays special attention to the dialogic nature of self-development (Taylor, 1994a, p. 31). In a similar vein, Dean Cocking and Jeanette Kennett offer mutually dialogic account of self-development which they call the ‘drawing view of friendship’ (Cocking and Kennett, 1998).
389 As James Sterba notes, when considering how to deal with conflict cases between self-interested and altruistic reasons for actions “a certain amount of self-regard is morally required or at least morally acceptable. Where this is the case, high-ranking self interested reasons have priority over low-ranking altruistic reasons, other things being equal” (Emphasis Mine, Sterba, 2005, p. 20). I equate taking recognition respect seriously with attending to the reasons that one has for acting and considering how those actions will impact on others. Other things are not equal when those actions are likely to impact others and/or substantially interfere with them.
Molcolm’s Self-Regarding Identity is trait V, that he is a vampire, and central to Molcolm’s Self-Regarding Identity is trait VR, that he is a violent rapist. Here, trait V is factually unfounded while trait VR is morally repugnant. Assuming that Malcolm, Milcilm and Molcolm all consider X, V and VR as equally important, does recognition require us to treat X, V and VR equally? Taking people seriously means we attend not only to the strength of their identification with X, V or VR, but attend to the reasons they have for identifying with the given trait, and such identification with that trait impacts on others.390

The cognitive account of identity presented in Chapter Four helps us respond differentially to X, V and VR: people have a capacity to have thoughts about thoughts and have a capacity to give reasons for acting in certain ways. Korsgaard says that self-consciousness makes it necessary to take control of our beliefs and actions, but we must then work out how to do that: we must find normative principles, laws, to govern what we believe and do. The distinctive feature of humans, reason, is therefore the capacity for normative self government (Emphasis Original, Korsgaard, 2009, p. xi). Likewise, Larry May argues that we form stable and coherent Self-Regarding Identities through time by not taking on our social values and leaving it at that, but reflecting on our central values, and accepting some while rejecting others. “[M]oral integrity is best seen as a form of maturation in which reflection on a plurality of values provides a critical coherence to one’s experiences…The self’s “core,” in terms of which values are accepted or rejected, is itself, formed through a process of socialization” (May, 1996, p. 26).391 In short, strong identification with a trait alone is not enough to warrant serious recognition respect. A person must be able to give reasons for why a particular trait is important or not.392 In short we must be able to give public reasons why identification with a given trait is to be respected.

Revisiting the three traits X, V, and VR, first consider X, skin colour. Firstly, we must recognise that X is something that Malcolm cannot change; we have a principled reason for endorsing his claim that X is central to his self identity. The burden of proof shifts to the reasons that others have for negating or valuing X. There seem

As stated in §1.4, I consider this is the point of ethics, to give sensible reasons for why something ought to be/not be done. Importantly, ethics is about expressing these reasons in such a way as to be publicy understandable.

I recognise here James Sterba’s point that, depending on the individual’s particular socialisation and nature, there are individual variations in how effectively different people can actually do this (Sterba, 2005, p. 26).

Without entering into a further discussion here, this aligns with common ideas in political philosophy whereby publicly available reasons and public dialogue are necessary elements of pluralistic societies. Such discussions can be found in (Habermas, 1995; Rawls, 1985, 1999b; Scanlon, 2000).
no justifiable reasons to hold that X is something that ought not to figure in Self-Regarding Identity; skin colour is a morally irrelevant feature to judge the value of another person by: we cannot simply say that a person shouldn’t identify with skin colour without substantial qualification. As such, we have no principled reason for rejecting the centrality of X to Malcolm’s self-identity. Hence, other things being equal, we ought to recognise X as central to Malcolm, and weigh X appropriately.

Now to the case of V, the factually unfounded trait. Perhaps we ought to reject Milcilm’s claims that trait V is central, on the grounds that that the trait cannot be supported by any appeals to truth: Vampires do not exist, so Milcilm is wrong to identify with V. However, consider that religious beliefs, as well as many other key self-identificatory traits, do not rest on factual claims. An appeal to truth alone does not give a reason to reject Milcilm’s claims to V. A ‘radical realist’ might object to this, and say that if central trait is not ‘real’, then identification with this unfounded trait can constitute a harm to self. Yet without some further explanation of what truth is, how truth and identity interact and why truth is morally relevant, an appeal to the factual validity of a trait alone does not give us a principled reason to reject Milcilm’s strong identification with V.

A different line of argument is that we ought to reject V, not because of some objective moral value of truth, but because of an inconsistency within Milcilm’s core beliefs: some of his traits are ‘true’ while others are ‘fantasies’. Such an inconsistency may produce instability in Milcilm’s character, which may lead to some diminishment in Milcilm’s autonomy or some suffering. Hence identification with V is morally undesirable. Inconsistency alone does not seem to constitute a threat to autonomy or a harm to self. Instead, insofar as some form of paternalism is justified, what should concern us is not inconsistency but fundamental identity instability brought about by

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393 As mentioned, it is beyond the scope of this thesis to go into a substantive philosophic and ethical discussion of what race is or isn’t, particularly about correlations between skin colour and race. I simply point to other discussions of race, biology and ethnicity. (Kitcher, 2007; Smedley and Smedley, 2005; Stevens, 2003).

394 Consider here a racial supremacist, who ties their skin colour with substantive claims about their superiority over people of different skin colour. The problem is not that they identify with their skin colour, but the particular way that they value it. In this case, the problem is that they presume that substantive moral and political rights follow directly from their skin colour. Later in this subsection, I discuss how such presumptions stand up to taking recognition claims seriously.

395 Whether or not he counts as a ‘radical realist’, a quote from Richard Dawkins fits this idea: “As a scientist, I am hostile to fundamentalist religion because it actively debauches the scientific enterprise. It teaches us not to change our minds, and not to want to know exciting things that are available to be known. It subverts science and saps the intellect...Fundamentalist religion is hell-bent on ruining the scientific education of countless thousands of innocent, well meaning, eager young minds. Non-fundamentalism...[makes] the world safe for fundamentalism by teaching children, from their earliest years, that unquestioning faith is a virtue” (Dawkins, 2006, pp. 284, 286).
psychological dissonance. As May argues, psychological integrity is less about the substance of one's core beliefs, but how these beliefs allow us adapt to our environment; “it is important that a person can find resources within himself or herself in a way that he or she can live with”, commitment to one’s central traits typically involves “conflicting value orientations…within a single self” (May, 1996, p. 25). If the fundamental instability does not occur, then we have no principled reason for rejecting Milcilm’s claims to V.

A further aspect to consider about Milcilm’s claim is whether his actions relating to V violate another’s rights or harm others. If he believes that he is a vampire and must therefore drink other people’s blood, here is a reason to override how Milcilm expresses trait V: Milcilm’s identification causes him to violate another’s rights and/or to harm them. However, note that it does not necessarily follow that Milcilm give up identification with trait V. Rather, he cannot act upon certain elements of this trait: we can respect Milcilm qua person, whilst not wholly and unreflectively endorsing his pursuit of V.

By allowing that rights violations, harms to others and discrimination can justifiably limit a trait’s expression, we also find a principled way of dealing with Molcolm, who strongly self-identifies with trait VR, being a violent rapist. Clearly, acting upon this trait constitutes serious rights violations, harms to others and/or injustices. Short of an extreme form of egotistical hedonism, any moral system will argue against Molcolm having a legitimate claim to violently rape others. Further, all moral systems will strongly negatively value such a trait. As such, Molcolm cannot offer any substantial justificatory reason for his positive endorsement of trait VR.

This sits with the cognitive model of identity from Chapter Four, which holds that identity is thoughts about who a person is: Identity is not merely the trait but the thoughts that people have about those traits. On all moral accounts, Molcolm ought to negatively value violent rape as a personality trait. However, like Milcilm, this does not

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396 A similar point about identity formation and religion is made by Philip Kitcher, where he argues that what is important not the factual accuracy of the claim or simple psychological consistency but reflective stability: a trait is “reflectively stable when it survives detailed scrutiny of one’s life and the lives of others; when it can be upheld as a worthy choice for the direction of one’s transient existence” (Emphasis Original, Kitcher, 2011).

397 Two things are meant here. Firstly, by any moral system, I wish to exclude a strong form of moral nihilism from this claim. Secondly, to state the obvious, different ethical systems would differ as to why violent rape is morally prohibited. However, insofar as violent rape is a paradigm example of a moral wrong, the disagreements about why violent rape should not distract us from the universal agreement that violent rapes are morally wrong.

398 See §4.2 - §4.5 for the discussions of this.
mean that Molcolm should attempt to believe that he does not have this trait. Rather the point is that he has no justificatory reason for positively endorsing his identification with the trait, much less acting upon it. Finally, taking recognition seriously, we also have a principled foundation for rejecting groups that would publicly advocate morally repugnant traits like VR. Something like a ‘pro-rape’ webpage (Pollard, 2009) is clearly unjustified.399

In summary, the basic recognition claim requires that in order to offer recognition respect to people, we ought to take seriously the traits that they self-identify with: we should neither reject their claims to a given trait nor unreflectively endorse the trait. Weighing appropriately holds with the general rule of thumb, that the more deeply the source person identifies with a given trait, the more care should be taken in how we practically recognise that trait. A limiting factor is the justificatory reasons offered for endorsing the trait. Like many other aspects of interpersonal relations, such traits, how they are valued and how they are expressed by the individuals ought to be open to moral criticism. Paraphrasing from Darwall’s recognition respect claim from above, we ought to ‘take seriously and weigh appropriately the fact that such traits are important in deliberating about how to care about and respond to traits.’

The question is, how does this relate to informational technologies? It is close to redundant to say that modern ICTs offer an unparalleled capacity to construct, distribute and publicise Virtual Identities of source people. What the basic recognition claim does is tell us why we should care about the construction, distribution and publicising of these virtual identities. Connecting the motivation to take such presentations seriously and weigh them appropriately with the identity/information dyad, we now have a rough guide on how to take care with these virtual identities.

Consider the three traits: X, V and VR. Basic recognition underpins the premise that, other things being equal, Malcolm, Milcilm and Molcolm all have a pro tanto claim to identify with X, V and VR. As we have seen, Malcolm ought to be able to produce Virtual Identities in a public way that is in line with the importance of trait X to him. In parallel, other things being equal, others are limited in producing demeaning Virtual Identities of Malcolm in virtue of X. By weighing X in regards to Malcolm’s Self-Regarding Identity, we ought to permit Malcolm to produce a ‘MalcolmX’ website.

399 Limiting the production and dissemination of particular morally problematic Virtual Identities may be considered interference in freedom of speech. However, there exists a body of literature that rejects simple claims about the primacy of freedom of speech over other values or rights (Alexander, 2005; Waldron, 2006, 2009; West, 2012).
whilst maintaining that a ‘Hate MalcolmX Because He Is X’ website is impermissible. Milcilm, ought to be able to produce a website outlining his identification with Vampires. However, in taking V seriously, Milcilm cannot advocate the drinking of other’s blood on this website. Similarly, Molcolm’s VR website is impermissible, given the rights violations and harms that are essential to Molcolm’s identification with VR. Weighing traits appropriately means that we take into account the strength of identification with the trait, taking traits seriously means that we look to the reasons why that trait is central to a person’s identity and contrast their reasons with other reasons why such a trait is morally reasonable. The dyad explains how this basic recognition plays out in the face of new technology.

7.5 Ethics And Personal Information: Targeting The Harms

This section focusses on moral issues concerning the person as target. It identifies moral issues that arise when a given set of personal information targets an individual or group. Like §7.4, it adopts a particular terminology to keep the attention focussed to the person as target: This section is concerned with informational harms. This is roughly consequentialist in approach, in that it focuses attention to the harms that arise as some consequence of the use of a particular set of personal information. While the explanatory focus here is given in rough consequentialist terms, this should not be understood as inimical to deontological interests. Firstly, the harms described here are likely to overlap with many of the rights concerns described in §7.4: Person As Source and Person As Target may refer to the same individual or group. Secondly, the moral foundation for the harm might be deontological – If Steve suffers because of X, a deontologist can say that Xing is wrong, not (just) because it causes Steve pain, but because causing pain is a violation of a duty to respect him. The concerns described in this section are relevant to deontologists as much as consequentialists.

The claims that will be developed in this section are phrased in terms of vulnerability. The contention is that personal information makes people, particularly target people, vulnerable to the actions of others. In Protecting The Vulnerable, Robert

400 For instance, James Griffin argues that “[t]orture has characteristic aims. It is used to make someone recant a belief, reveal a secret, ‘confess’ a crime whether guilty or not, abandon a cause, or do someone else’s bidding. All of these characteristic purposes involve undermining someone else’s will, getting them to do what they do not want to do, or are even resolved not to do…In one way or another, they all involve an attack on normative agency” (Griffin, 2008, p. 52).

401 Daniel Solove makes a similar point about information and vulnerability (Solove, 2004, pp. 107-108).
Goodin’s central thesis is that “we bear special responsibilities for protecting those who are particularly vulnerable to us.” (Goodin, 1985, p. 109). The special responsibilities generate duties that amount “to an injunction to prevent harms from befalling people. Conceptually, “vulnerability” is essentially a matter of being under threat of harm; therefore, protecting the vulnerable is primarily a matter of forestalling harms” (Emphases Mine, Goodin, 1985, p. 110). A key reason for focussing on vulnerability and its relation to personal information is to show that we have a duty to prevent or minimise as far as possible harms that may arise. This focus on prospective harms becomes relevant when discussing the design and use of informational technologies, returned to in §8.2.

In order to show that personal information makes people vulnerable, I need to show the harms that can likely arise, and that personal information warrants sustained attention. The following subsections present five types of informational harms and show what role the identity/information dyad plays in explaining these harms: Deliberate Information Harms, Negligent Information Harms, Incomplete Information Harms, Limited Opportunity Harms and Closed Identity Harms. The upshot of this is that convergent technologies with a potential to construct Virtual Identities ought to be designed and used in such a way as to minimise the probability and magnitude of informational harms.

7.5.1 Deliberate Information Harms

Personal information fits with deliberate harms quite simply: people can use personal information to harm others. A set of examples referring to broadly targeted and narrowly targeted information will bring this point out. Perhaps the most obvious misuse is identity theft: using personal information access to another’s bank details in order to steal money from them. However, such deliberate harms extend beyond the economic sphere.

In an example of broad information targets, consider the activities of the Nazis in Nazi occupied Europe: The Nazis used information to target groups like Jews, Roma,
communists, anarchists etc., for deliberately harmful action. For instance, Jeroen van
den Hoven provides the example of the Nazi invasion of The Netherlands in 1940: After
gaining access to Dutch census information, the Nazis easily and rapidly identified
many Jewish members of the Dutch population, increasing the Nazi’s efficiency in
harming many people (van den Hoven, 2008). Contrast this with the Italians whose
bureaucratic inefficiency has been said to have reduced the effectiveness of the Nazi’s
Jewish policy (Glover, 2000, pp. 389-390). The point here is that information made the
Dutch targets more vulnerable to harms than the Italian targets.

In examples of narrow targets, consider that Fred is violently opposed to gay
people. Fred finds out that that Ellen is gay, and given his hatred of gays, he finds out
where Ellen lives and physically assaults her. In a third example, consider that Ned is
also violently opposed to gay people. Fred makes Ellen’s sexual preferences and home
address public and Ned then physically assaults Ellen.

In each of the cases, while the harms themselves are economic or physical, they
come about because of personal information. Even in the case where Ellen suffers harm
from the result of Ned’s physical assault, Fred’s posting of Ellen’s personal information
is an essential aspect in explaining how the harm came about. Whether it is
information that broadly or narrowly targets people, personal information is an essential
part of people deliberately bringing the given harms about. Personal information has
made the Targets more vulnerable to harms.

These examples draw attention to the important causal role of information in an
action that harms another. That is, the bad agent uses personal information to
deliberately harm people. Generally, unjustified harms are prohibited by any ethical
system – even more so with deliberate harms. So what is being said here that is new?

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404 The harms here certainly extend beyond informational analysis: I don’t want to draw too much
attention away from the moral catastrophe that was the Nazi genocide. Instead, I want to draw attention to
the point that information made the Nazi programs more efficient.
405 This is a deliberate allusion to Fred Phelps, a real person, who is fundamentally and very publicly
opposed to gay people. As part of his opposition to gay people he and members of his church (The
Westboro Baptist Church) run websites like godhatesfags.com. They also regularly picket the funerals of
recently killed US soldiers thanking God for the soldier’s death, as they state that the US government is in
favour of gay lifestyles. The dead soldiers represent God’s wrath against gays generally and the US
government in particular.
406 Fred Phelps, the real person, has not to my knowledge physically assaulted anyone.
407 In this third example, some of the causal responsibility for Ellen’s harm arises from Fred’s actions, and
as such it is reasonable to assign moral responsibility to Fred also. Given space constraints we cannot go
into discussion of why we should hold Fred morally responsible for Ellen’s harms here. However cases
like complicity in the Rwanda genocide as discussed by Larry May and hate speech and security as
discussed by Jeremy Waldron, give reasons as to why a person like Fred should be morally responsible
for harms that arise from his publication of personal information targeting Ellen (May, 2010; Waldron,
2009).
There are two points that make the discussion more than simply repeating the obvious. Firstly, that more information is available for use and abuse. Secondly, the Virtual Identities increase the target’s vulnerability to deliberate informational harms.

It should be uncontroversial for me to say that in our current society, it is easier to produce and get access to personal information. However, this alone does not mean that the risk of informational harms has necessarily risen. More relevant is the recent rise of convergent technologies, increasing the capacity for targeting information to particular individuals and groups. As one study has shown, it is possible to predict a person’s Social Security number from publicly available information with reasonable certainty (Acquisti and Gross, 2009). Other technologies can be used to identify individuals: RFIDs can be placed in clothing to locate and track individuals (Albrecht and McIntyre, 2005; Lockton and Rosenberg, 2005), typing patterns can identify individuals (Peacock, Xian et al., 2004) and various biometric technologies are being developed and used to identify individuals and groups (Clinton Fookes cited in The Australian ‘Soft Biometrics The Next Step For Security Surveillance, According To Aussie Researchers’; Alterman, 2003; National Institute Of Standards And Technology, 2009). In short, given access to the technology, it is relatively easy to identify people using informational technologies.  

Secondly, as these sorts of information can be combined to produce revealing Virtual Identities, the actual harms that can be committed can become worse in kind and are much easier to commit. Helen Nissenbaum describes this as problems arising from the ease of information aggregation and production of further information and knowledge from existing databases (Nissenbaum, 2009, pp. 41-45). A host of tools are currently in use that claim that personal data can be used to characterise people. For instance, publicly available records may be used to predict a person’s voting habits, (Baker, 2007, pp. 67-95; Scherer, 2012), personal prescriptions are sold to private firms (Freudenheim, 2009), a person’s movements in a shopping centre can be tracked by

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408 Helen Nissenbaum notes that the “democratization of database technologies” and “information mobility” are pivotal transformations, brought about by cheap computer memory (Nissenbaum, 2009, pp. 38-40, 36). Consider the ease with which people can now identify targets, and perform analysis on data to identify particular individual’s traits, when contrasted with the former East Germany who needed a pervasive police state to collect, store, aggregate and communicate personal information.

409 A similar conclusion is drawn by Floridi, when he says that information communication technologies can impact privacy concerns by making it easier for information to be used for unwanted purposes, what he calls ontological friction. “The more the ontological friction in the infosphere decreases, the swifter these detached labels can flow around, and the easier it becomes to grab and steal them and use them for illegal purposes” (Floridi, 2005b, p. 198).
their mobile phone (Morris, 2012), or via the GPS in their car (Ramli, 2011). A recent news article describes a website where “where nude photos of everyday people, including Australians, are typically published against their will alongside their name, location and screenshots of their Facebook profile” (Moses, 2011). In this case, highly revealing information is put in a very public place, linked to a host of personal identifiers, in a way that is very easy for an irate ex-partner to do. Likewise, the aggregation of large swathes of personal information in a database present ideal locations for hackers to access detailed Virtual Identities, which could result in “years of identity-theft risk” (Edwards and Riley, 2011). The publication of nude photos of a person by an irate ex-partner would typically be considered worse than the irate ex-partner speaking ill of them to a small circle of friends. Likewise, in 2007, the office of the Privacy Commissioner in Australia commissioned a report that said that almost 2 million Australians have had their personal data stolen and used in some deliberate informational harm (Wallis Reporting, 2007). So, the magnitudes of harms can be great either in the types of harms or the amount of harms enabled by new technologies.

The basic point here is that the capacity for convergent technologies to easily produce and distribute Virtual Identities exposes many people to risks of deliberate harms. Our vulnerability to such harms is increased by the aggregation of personal data. Insofar as harms are bad, and that we ought to work to reduce people’s vulnerability, then Virtual Identities present a major way of increasing people’s vulnerability to deliberate informational harms. Yet, as with the discussion of the wrongs to source people, it is hard to properly explain how significant harms can come about when considering innocuous information. The identity/information dyad is a tool that can explain how the aggregation of innocuous information forms Virtual Identities which increase people’s vulnerability to deliberate informational harms.

7.5.2 Negligent Information Harms

Negligent information harms arise when a Virtual Identity is constructed that targets an individual or group, but the data is not accurate. However, as the Virtual Identity is used in some decision procedure, the target person is harmed by unjustified/inappropriate actions of another, as a direct result from the inaccuracy. As

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410 Stephen Baker notes that a person’s movements in a shopping centre can reveal who is a good customer, who is a bad customer, and can result in differential treatment of shoppers (Baker, 2007, p. 43).
411 While some of the data is true, some of it is not. In Floridi’s terms, such a Virtual Identity would be ‘pseudo-informational’, as this data is not true and this would not count as information. See §5.5.
before, the target can be broad or narrow, depending on how many people are identified by the Virtual Identity.

The targeting of individuals based on racial profiling presents a broad based negligent informational harm. Following various terrorist events in Europe, particular Islamic and Muslim groups were targeted for surveillance as part of counter-terrorism purposes. This sort of racial/ethnic profiling in a criminal justice context has problematic as part of law enforcement strategies, and can aid in increased institutional discrimination of the given ethnic groups (Ossorio, 2006; Ossorio and Duster, 2005).

In an example of a narrow target, in a recent case from Australia, Mohamed Haneef was said to have been involved in terrorist activity:

Dr Haneef, an Indian national, was arrested on suspicion that he was guilty of supporting terrorism through a connection [to an] attack at Glasgow International Airport on 1 July 2007. He was taken into custody for questioning on 2 July and held for twelve days before being charged. He was granted bail two days later but remained in detention following the [Australian Immigration] Minister’s immediate cancellation of his visa amid much talk of information that could not be released to the public but which implied that Haneef was meaningfully connected to terrorism. The criminal charges were withdrawn on 27 July 2007. The visa cancellation was overturned by the courts on 21 December 2007 (McNamara, 2009, footnote 6).

One of key connections between Haneef and the Glasgow terrorists was they were found to have a phone SIM card that was thought to have originally belonged to Haneef. Though some of the information about Haneef was accurate, other information was not.

While the particulars of the Haneef case are complex, what is important for this example is that the Australian Immigration Minister at the time, Kevin Andrews “invoked the character test of the Migration Act in order to cancel Haneef’s work visa and keep in him in detention even though he had been granted bail (Emphasis Mine, Rix, 2011, p. 293). A Virtual Identity was constructed for Haneef that characterised him as a terrorist and following construction of this Virtual Identity, Haneef was held in custody, lost his job and suffered significant reputational costs. The reason why this is

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412 See, for example, (Guzik, 2009).
413 For instance, two of the key pieces of evidence used to charge Haneef were found to be incorrect – that he had lived with the Glasgow bombers, and that a SIM card originally owned by Haneef was found at the scene of the bombing (See Endnote 9, Rix, 2011, p. 295).
414 The Australian Government’s enquiry into the case can be found at http://nla.gov.au/nla.arc-84427. Mark Rix and Lawrence McNamara offer analysis focussing on certain legal and media aspects of the case (McNamara, 2009; Rix, 2011).
relevant is that these harms to Haneef would have been likely been reduced or may not have come about had the Virtual Identity been accurate.

An important element to both broad and narrow examples of negligent informational harms is the context of use. Both examples occurred when particular institutional actors have used Virtual Identities as part of their decision procedures. Use of Personal Information in contexts like criminal justice raises significant moral concerns due to the magnitude of harms that can occur. Given the multirealisability of information, §5.7 - §5.8, a Virtual Identity can change given different the contexts that it is used in. For a mobile phone salesperson, that Haneef lived with someone else and may have left them with a SIM card could result in Haneef receiving junk email about new rates to friends on the same mobile phone plan. That same Thin Information in the context of decision making for law enforcement agencies resulted in far greater consequences for Haneef than receiving junk email.

Importantly, in both broad and narrow cases described, the institutional actors may operate without any intention to deliberately harm the target people. However, given a minority group or Haneef’s vulnerabilities to the decisions of the law enforcement agencies, the institutional actors were negligent in not ensuring a higher quality Virtual Identity prior to acting. The harms to the minority group and Haneef were of a criminal justice nature; however, the construction of the inaccurate Virtual Identity was a central element to bringing these harms about.

A counter argument can be raised here that, given the magnitude of harms of terrorist activity, such individual harms are a cost that must be borne to make society at large more secure. Similar to the case of Faisal Shahzad described in §6.2.1, potential terrorists can be identified through the construction of Virtual Identities. So though the law enforcement agencies described immediately above got it wrong, aren’t a few false positives a fair price to pay for making all our lives more secure?415 Three responses can be made. Firstly, the general point that I am making is about negligent informational harms; using statistical profiles of particular ethnic groups to determine law enforcement strategies is an instance of criminal profiling through the Essentialised Identities introduced in §4.4. The negligence arises in using inaccurate Virtual Identities to decide institutional activity. Secondly, given the context of use, the particular response needs to be dependent on both the magnitude of the harms of inaction, and the

415 Elliot Cohen discusses issues of harms and false positives and false negatives as part of the US Total Information Awareness (TIA) Project (Cohen, 2010, pp. 24-28).
harms of acting in a certain way. This is a particular form of epistemic contextualism where the greater the harms of acting in a given way,\textsuperscript{416} the greater the need for certainty that the harms of not acting will arise (Guerrero, 2007).\textsuperscript{417} Making decisions about how to treat a person if you are a law enforcement officer obviously involve different standards compared to a mobile phone salesperson. Finally, the point of this section is to explain how potential harms arise from the production and use of inaccurate Virtual Identities. The larger purpose of this chapter is to show that these sorts of harms ought to figure in our decision making. And while it is beyond the scope of this thesis to explore in detail the complex issues arising from trading security concerns against individual rights and harms, some discussion of this is covered in §7.7.

7.5.3 Incomplete Information Harms

As above, information can be harmful to individuals but the harms do not need to be deliberate. Instead of negligently using a Virtual Identity constructed from factually inaccurate data, harms can arise when the Virtual Identities are decontextualised and lose their intended meaning. Recall ‘incomplete information’ from §5.5.1: incomplete information arises when a speaker presents true, well ordered, meaningful data, but this data either does not succeed in meeting the speaker’s actual intention or the speaker’s expressed intention is different to their actual intention. The reason for this lost meaning is that there is not enough additional contextual information to effectively afford that the destination’s meaning corresponds to the source’s intended meaning. Virtual Identities can produce Incomplete Informational harms by being decontextualised and recontextualised.

For instance, consider the reporting of scientific research without the necessary context. In the example of the MAOA gene from Chapter Five, one of the key controversial aspects was that the scientific research was communicated in a way that decoupled the genetic information from socio-economic factors, whilst claiming a link between genetic information and complex anti-social behaviours. “The [MAOA]...
‘warrior gene’ controversy has shown how failing to emphasise the complexity of gene-environment interactions and their influence on behavioural differences between groups can plunge research into disrepute, and fuel harmful discriminatory attitudes in society” (Wensley and King, 2008, p. 509).

The harms in the MAOA case arose from (at least) two complementary factors. Firstly, genetic information was coupled with complex social behaviours, producing a Virtual Identity with a broad target – the indigenous population of New Zealand. In essence, a simplified reading of the research put forward the idea that Maoris are genetically predetermined to be antisocial. Secondly, like many minority ethnic groups, the Maori population in New Zealand is already subject to discrimination. Coupling a simplified Virtual Identity with a social context of discrimination, individual Maoris were at increased risk of further discrimination. And assuming that such unjustified discrimination is harmful, we have a situation of informational harms.

Importantly for this example is that this sort of harm can come about without any deliberate intention to harm by either the researchers or any other people. And this lack of a deliberate will-to-harm can make it harder to identify such harms and harder to explain why we should care. By introducing the identity/information dyad, we can now see how a Virtual Identity can form the basis for an Other/Other Regarding Identity, resulting in increased risk of vulnerable groups to discrimination. As with §7.5.2, given the multirealisability of information, these Virtual Identities can arise independently of the intentions of the individuals who produced the scientific information. As is the case with other race-based discrimination, the harmful practices can occur at a sub-personal level, where the agent neither intends nor knows that they are acting in a discriminatory fashion (Blair, Judd et al., 2004). But until we show how identity and information interact, it may not be obvious how such incomplete information can be harmful.

A further element increasing vulnerability of targets to incomplete information harms is, again, the institutional environment that the Virtual Identity is used in. Institutional practices often rely on Virtual Identities as central planks in decision procedures guiding the treatment of target individuals. However, if the base data from which Virtual Identities are constructed is not accurate: either because it is incorrect or is incomplete, this can establish or entrench discriminatory practices. As with negligent informational harms, though no individual within the given institution is seeking to harm the target individuals, substantial harms can arise through a conjunction of negligent and incomplete informational practices.
7.5.4 Limited Opportunity Harms

Limited Opportunity Harms arise when a certain Virtual Identity is used to limit the range of opportunity that an individual might have. Norman Daniels argues that “[w]hile opportunity is a good enjoyed by individuals, protecting the space of exercisable opportunities is a societal obligation that creates a public good enjoyed by a population” (Daniels, 2008, pp. 2-3). The basic point here is that Virtual Identities can limit, sometimes quite substantially, the range of opportunities available to a person. Insofar as living a good life is contingent on a person having a reasonable range of opportunity, then limiting a person’s opportunities is a harm. Opportunity can be restricted in a number of ways; the target person can be broadly or narrowly targeted, and the harms can be ‘standard-harms’ or ‘micro-harms.’

A standard-harm is one which is an easily recognisable harm, a micro-harm is a harm that arises through the accumulation and/or aggregation of many small harms. An example of each is given and the role of Virtual Identity in these harms is brought out.

A Broad Standard Informational Harm would be where a particular set of information is used to deny a group of people opportunity to access key social roles because they are of a certain group. For instance, denying people equality of access to particular social institutional roles based on the given gender, ethnicity, religious persuasion etc. I call these standard harms as it is standard that the outcome of such institutional roles is harmful: Assuming that the group’s particular Virtual Identity is irrelevant to the given discrimination, this is clearly against the standard accounts of equality and individual rights. Further, is the assumption that such decisions would lead to an overall worse state of affairs than without such limits on opportunity.

A Narrow Standard Informational Harm would arise when a particular set of information is used to deny opportunity to an individual. For instance, consider a case of male who is on a sex offender registry: When 14 he sent a naked photo of himself to

418 The language of ‘opportunity’ here is deliberately Rawlsian: “A second respect in which citizens view themselves as free is that they regard themselves as self-authenticating sources of valid claims. That is, they regard themselves as being entitled to make claims on their institutions so as to advance their conceptions of the good” (Rawls, 2001, p. 23). However, note that this tracks consequentialist concerns too. For instance, John Stewart Mill’s states: “[i]t is desirable, in short, that in things which do not primarily concern others, individuality should assert itself. Where, not the person’s own character, but the traditions or customs of other people are the rule of conduct, there is wanting one of the principle ingredients of human happiness, and quite the chief ingredient of individual and social progress” (Mill, 1971, p. 185). A similar set of points is made by James Griffin (Griffin, 1986, pp. 235-242).

419 I take this terminology of ‘micro-harms’ from Samantha Brennan’s recent unpublished work and personal communications.

420 Again, appealing to an idea of equal opportunity of access to offices and positions is particularly Rawlsian account, appealing directly to his Second Principle Of Justice (Rawls, 1971, p. 302).
his then 15 year old girlfriend via his mobile phone. Some legal jurisdictions counted this as producing and distributing child pornography, and so he was put in a sex-offender registry list. At age 24, he is still on this list and as a result of this information, has his opportunity limited. The capacity for him to move beyond his youthful indiscretion may be severely limited: certain jobs will be denied him, personal relationships may suffer or not materialise, and his own physical security may be under threat. In short, his range of opportunities is limited by a Virtual Identity. Note that this Virtual Identity, while accurate in a sense, is incomplete if the situation of his ‘production and distribution of child pornography’ is not part of his description on the sex offender registry. Additionally, the focus in this section is on harms beyond any particular reprisals – his opportunity to be an equal member of society is severely limited.

A Broad Micro-Harm would be a case where individuals of a certain group are limited in their opportunities by the constant and persistent use of Virtual Identity. What makes this example distinct from the Broad Standard Harm is that the harms only materialise through accumulation and/or aggregation of many very small harms. For instance, consider the many small inequalities faced by women in much of the developed world. Compared with men, “women pay more for haircuts, dry cleaning, and cars. More seriously, [women] also earn less, are less well represented in our political institutions, do more than our fair share of household work, enjoy less personal security on city streets, and have less leisure time than do our male counterparts” (Brennan, 2009, p. 141). Each of these events alone may constitute a minimal harm. However, if practices such as this are repeated every day, an accumulation of harms develops. Secondly, summing across the harm types, we have an aggregation of harm types too – having to pay more for goods and services may only be a slightly bad thing, but if you are paid less and have little political opportunity to change things, then we have a more serious set of harms.

Samantha Brennan describes these sorts of harms as ‘lumpy’. A lump is a good or bad whose value qualitatively changes when considered in increments or in aggregate. “Five minutes of a babysitter's time does me very little good. It's not equivalent to 1/12 the amount of a good an hour of his time would give me” (Brennan, 2006, p. 260). Being treated differently because of one’s gender can produce a host of micro-harms that are only morally relevant when considered in lumps. This is the same argument raised in §1.3; we cannot properly recognise the moral importance micro-
harms when they are disaggregated. Virtual identities can play a central role in this limiting opportunity as Deliberate, Negligent or Incomplete Informational Harms. If institutional decision making is based on the Virtual Identity for a given person, and the particular aspect of the Virtual Identity is irrelevant to the decision making, then a host of invisible micro-harms can propagate discrimination at an institutional level.

Narrow Micro-Harms operate in the same way as Broad Micro-Harms. However, rather than the informational target being a broad group, the target person is a particular individual. For instance, consider the phenomena of cyber-bullying. Calling Adam ‘fatty’ once, while unpleasant and unkind, is unlikely to result in any serious harm to Adam. However, consider that Adam is called ‘fatty’ repeatedly, by a large group of his peers. Further, consider that this is done with the aid of an almost omnipresent internet-based social media: Adam has few places to escape to, to avoid being called Fatty. Now, consider that Adam is a 14-year-old school boy, especially vulnerable to the attitudes of his peers, and heavily dependent on social media as a central part of his social life. The harms to Adam by being called ‘fatty’ should now be understood as morally substantive. The informational technologies enable a persistent and repetitive reinforcement of Adam’s inferior social status, in a subtle but pervasive way.

In each of the situations so described, a particular Virtual Identity is ascribed to the individual, which limits their capacity to develop their own sense of the good as their range of opportunity is limited. This may obviously count as a harm – when being black, or a registered sex offender limits the jobs that one can take and the places that one can live. Or it may be micro-harms – institutional discrimination and school-bullying both present the potential for certain groups or particular individuals to be excluded from important social activities. The identity/information dyad operates to expose just how such harms come about, with a particular capacity to explain such harms arising from innocuous Personal Information.

7.5.5 Closed Identity Harms
For the opportunity harms described – broad/narrow and/or standard/micro – a similar-but-different set of harms can also arise, often in tandem with the Limited Opportunity harms. Rather than equality of opportunity, the explanatory priority here is focussed on how such devalued Virtual Identities can negatively impact the target person’s identity
development. Situations like those described in §7.5.4 can also involve harms of misrecognition. Charles Taylor writes:

The demand for recognition…is given urgency by the supposed links between recognition and identity, where this latter term designates something like a person’s understanding of who they are, of their fundamental defining characteristics as a human being. The thesis is that our identity is partly shaped by recognition or its absence, often by the misrecognition of others, and so a person or group of people can suffer real damage, real distortion, if the people or society around them mirror back to them a confining or demeaning or contemptible picture of themselves. Nonrecognition or misrecognition can inflict harm, can be a form of oppression, imprisoning someone in a false, distorted, and reduced mode of being (Emphasis Original, Taylor, 1994a, p. 25).

This is Self-Regarding Identity, filtered through a devalued Other/Other Identity. As argued, information forms identity, §6.2, and identity forms information, §6.3. If Adam is constantly called ‘fatty’ this promotes and reinforces to him that he is fat, and that people think less of him because he is fat. Likewise, institutionalised omission of minorities from popular media or repeatedly promoting demeaning caricatures of already marginalised groups is likely to have negative impacts on their self image. As Catriona Mackenzie has argued (Mackenzie, 2000), the capacity to imagine oneself outside of a given social position is highly important in developing a person’s capacity to develop a healthy Self-Regarding Identity.

Further, limiting people’s capacity to imagine themselves into new social positions can have a bootstrapping effect on limiting opportunity: “Even in a context of formal legal equality of opportunity, social reform has limited power to reshape people’s lives and opportunities if the cultural imaginary is predominantly phallocentric” (Mackenzie, 2000, p. 125). Offering formal equality of opportunity, such that no-one is actively prevented from taking on an important office or position, may not be enough. Those who have not traditionally held such roles must know that they can actually have that role, and can perform well in it.

Limiting identity development by treating people as less valued than others is harmful. The role that information plays in this is that the magnitude of harms can be made worse by technology. Such closed identity harms are likely to already exist as a background set of social conditions. Adam is called ‘fatty’ because our society typically devalues the overweight, and because school children can be unthinking in their actions. What informational technologies do afford such demeaning Virtual Identities to be created and perpetuated with ease. Likewise, in the cases like race based institutional discrimination, building incomplete information into the basic decision making
procedures can afford particular existing discriminations to persist and extend their harms.

If the designers of computer systems for forensic genetic profiling are guided by the idea that race is a scientifically valid categorization and integrate this assumption into the system, the result can be systematic and unfair discrimination between individuals or groups of individuals. The use of race within a criminal and forensic context, especially when based upon genetic information, creates the potential for conflation of race, criminality and genetics and poses concerns for social justice (Weckert and Henschke, 2009).

Reducing the scope for opportunity can occur through institutional decision making that relies on negligent and incomplete Virtual Identities. This reduced set of opportunities perpetuate the broad micro-harms, leading to further development of devalued Self-Regarding Identity, leading to a reduced scope for opportunity. Particular groups can become marginalised and suffer significant harms to their identity development, despite the fact the no individual is necessarily deliberately harming them.

In fact, given the lack of a deliberate will-to-harm, micro-harms arising from negligent and incomplete Virtual Identities can be very hard to recognise, explain and deal with than deliberate harms. This is where the identity/information dyad is especially useful: by drawing out the dyadic relation between identity and information it offers a way of explaining why such micro-harms are morally relevant. Second, it can readily explain how emergent technologies can play an important causal role in harming target people. Considering that many of these harms are unintentional and invisible, such an explanatory tool is needed.

7.6 Ethics And Personal Information: Distributing Virtual Identities

A third set of moral concerns derives from Virtual Identities and distribution. This concern can be understood in relation to access to resources, how personal information itself is distributed, and how the harms and benefits arising from personal information are distributed. In particular, this section adds existing discussions of equality and justice by explicating the roles that Virtual Identity play in differential treatment of people.

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421 The basic motivation of this section is that if one holds that equality/fairness are something to be valued, then one ought also think that the ways in which Personal Information can be used should be reconciled with equality/justice. As with §7.4 and §7.5, I assume the moral importance of equality/justice.
7.6.1 Fair Distribution Of Access

Jeroen van den Hoven and Emma Rooksby have argued that “information is necessary...for rational life planning, and for making rational choices in carrying out a plan” (van den Hoven and Rooksby, 2008). Given this, they argue, “access to information can be construed as a Rawlsian primary good” (van den Hoven and Rooksby, 2008). In short, on this account, access to information is a necessary condition of living a good life in the modern developed world.

A general claim about information being a primary good may hold, but something else needs to be added – we need to be able to say why that set of information is necessary to make an informed choice. Personal information is likely to be such a set. For instance, having access to a rich and detailed Virtual Identity about one’s self is likely to be extremely useful for making informed decisions about one’s own life. In addition to the privacy and ownership claims described in §7.4 (which were ostensibly about restricting other’s access to Self-Regarding Information), a parallel claim can be made that, insofar as a Virtual Identity would be useful to informing a person’s life-plan, they should have some access claims to it.\footnote{422}

Van den Hoven has also argued that information can be used to deny access unequally. Van den Hoven’s concern here derives from the modern technological developments that require people give personal information to others in pursuit of good or service X “[A]lthough a market mechanism for trading personal data seems to be kicking in on a global scale, not all individual consumers are aware of their economic opportunities, and if they are, they are not always in a position to trade their data or pursue their interests in a transparent and fair market environment so as to get a fair price for them” (Emphasis Mine, van den Hoven, 2008, p. 312). Van den Hoven’s claim has two elements, transparency and a fair market.

Though a user may be willing to enter such a transaction, if the transaction is not transparent, this may not meet the basic conditions of properly informed consent.\footnote{423} This point is recognised by Daniel Solove (Solove, 2004) and Helen Nissenbaum (Nissenbaum, 2009). This lack of informed consent arises if we don’t properly know

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\footnote{422} Recall from §1.1 that this basic right of access to one’s own information is seen by the UK Government as central to their Open Governance and Open Health initiatives (§1.1, U.K. Government, 2012).

\footnote{423} In line with the discussion in §1.2, I am taking an account of informed consent like that proposed by Tom Beauchamp and James Childress (Beauchamp and Childress, 2001b, pp. 77-98). I do, however, note that there are problems with this approach to informed consent, and informed consent more generally (Clayton, 2005; Manson and O’Neill, 2007; Netzer and Biller-Andorno, 2004; Skene and Milkwood, 1997).
who we are giving our personal information to, or for what purpose.\textsuperscript{424} This may not be of great concern when considering that the good or service being pursued is without great value – hence the potential user can decide not to provide their personal information.

What if the good or service is of great value or necessary for access to minimal needs? Then the user cannot simply choose not to use the service. These situations will require personal information from the user to either (a) prove the user is justified in gaining access to the given good or service, or (b) to actualise the good or the service. Operating in a fair market would require fair trade of personal information for the given service. On (a) consider that the user is buying a hat on the internet; we consider it reasonable to provide some set of personal information to verify that the user is who they say they are. However, we would consider it unreasonable if the personal information was unconnected to the good or service being requested: giving credit card verification details in order to buy a hat seems reasonable, providing nude photographs would not be. Similarly, on point (b), again while we would consider that credit card details may be needed for purchasing a hat online, and giving personal medical data is needed for healthcare purposes, but giving personal medical information to purchase a hat online is unreasonable. Both of these points, (a) and (b), presume some that information being sought is in line with goal of the access. This point is returned to in §7.7.

Taking van den Hoven and Rooksby’s point that access to information may be a primary good, especially so in the case of Personal Information, and van den Hoven’s point that limiting access to necessary goods or services may promote inequality, we have a dual problem of access. There is a claim that we may need access to our own personal information in order to make informed decisions about our own lives. Secondly, we should be able to access other primary goods without needlessly trading our own personal information.

Sitting beneath this is the problem of discrimination via Virtual Identity: That Virtual Identities can result in people and institutions to treating like-cases differently and without justification. What my analysis offers is the explication of this discrimination. Given §7.4.2, it is potentially an infringement of ownership. Further, following, §7.4.3, such requirements may display a lack of due recognition for

\textsuperscript{424} This sort of problem with informed consent has been discussed in relation to human-data biobanks (Clayton, 2005).
individuals, by inappropriately weighting the importance of the information. Finally, the institutions need to focus on minimising the sorts of harms outlined in §7.5 resulting from the way the Virtual Identity is used. The dyad adds to the discussion an explication of just how such discriminatory inequalities come about by showing the mechanisms operating between identity and information. Importantly, by requiring us to consider information in aggregate, the dyad shows that such inequalities can occur when accessing and using innocuous personal information.

The upshot of the access concern is that people should have access to Virtual Identities that relates to them, either as a source or target person. In order to make this claim reasonable, it needs to take three things into account. Firstly, the Virtual Identity needs to actually be relevant to the person’s life plans. That is, they must be able to provide reasons as to how that Virtual Identity is likely to be useful in their pursuit of their conception of the good. Secondly, they need to be able to show that their access to the Virtual Identity is not likely to result in any of the harms described in §7.5. Finally, as mentioned, some personal information may be required to access other primary goods. §7.4 and §7.5 have both been extended discussions of why Virtual Identities ought to be treated with care. §7.4 and §7.5 argued general claims that more revealing of the source person the Virtual Identity is, and/or the more vulnerable it makes the target person, the more care should be taken with this personal information. This is relevant in that while a Virtual Identity may be necessary for access to a given good or service, the justification needed for that Virtual Identity increases as the amount revealed and the vulnerability of source and target increase. The conclusions here are that (a) the need for the Virtual Identity should track to the purpose of the good or service, and (b) those handling the personal information have a greater responsibility to treat it with care. These points are revisited in §7.7 and §8.2, respectively.

7.6.2 Fair Distribution Across Contexts

In addition to informational equality, van den Hoven has also argued that we ought to care about informational injustices.425 Van den Hoven’s account starts from Michael Walzer’s Spheres of Justice:

> Social goods have social meanings, and we find our way to distributive justice through an interpretation of those meanings. We search for principles internal to each distributive sphere...the disregard of these principles is tyranny. To convert one good into another, when there is no intrinsic connection between the two, is

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425 Informational injustices were introduced in §2.5.5.
to invade the sphere where another company of men and women properly rules (Emphasis Mine, Walzer, 1983, p. 19).

Van den Hoven takes Walzer’s spheres of justice concept, and argues that information used in context A should not be used in context B (van den Hoven, 2008; van den Hoven and Rooksby, 2008). A paradigm example is that personal information given to a medical professional should be used only in a healthcare context. Medical information given in a health care context should not shift to an economic context. If it does, an informational injustice has occurred.

Walzer’s basic premise is derived from the way that context changes the meaning of things (Walzer, 1983, p. 19). This goes to the multirealisability of information, as discussed in previous chapters, a point mirrored by van den Hoven. “The meaning and value of information is local, and allocative schemes and local practices that distribute access to information are also associated with specific spheres” (van den Hoven and Rooksby, 2008). A patient ascribes a certain meaning to their Personal Information and that meaning may carry with it a level of importance for the patient. Changing contexts, changes the information. This shift in meaning can bring with it a shift in value – the patient values their personal information because of its meaning to them, however, someone using the personal information in a different context may not value it similarly or at all. This qualitative change is accurately described by the emergence of Virtual Identities from aggregated information. The dyad offers the explanatory apparatus to show just how the information has actually changed.

Perhaps the greater intuitive force of a Walzerian approach to informational injustice arises from the expectation of how the information will be used. The intuition is that personal information given in context A was needed to provide a good or service also located in context A. This seems in part to track to a promissory obligation whereby the promise, in this case using personal information in context A only, arises due to the damages arising from the breach of contract, whether it is due to the increased vulnerability of the one or more parties to the contract, or importance of the institution that contract has been conducted in. As I understand it, van den Hoven’s informational injustice holds that the source person has been wronged by not having their privacy, ownership and/or basic claims respected. Again, the dyad captures this promissory breach by explaining how aggregated information has become different from its original form.

426 This idea of promises making some parties to the promise vulnerable, and the importance of the given social institution in which the promise was made, is taken from Goodin (Goodin, 1985, pp. 50-52).
Yet this does not mean that personal information should only stay in the particular sphere in which it originally arose. For instance, consider a parent and young child both present to a family doctor with the same sexually transmitted disease. In this case the doctor should alert the relevant institutional actors such that the potential sexual abuse of the child is properly investigated. In this example, medical information may have been transferred from the medical context to the criminal justice context. However, given the potential rights violation and/or harms to the child, this transfer from one context to another seems justified. Similarly, consider an example where a person arrives at an airport with a set of symptoms tracking to an emerging pandemic outbreak. In this example, personal information gathered in a transport context may have been transferred to a context of public health. Again, however, given the potentially massive rights violations and harms that could occur from an unchecked pandemic, it would seem that the transfer of information from one context to another is justified.

Finally, consider a patient who donates tissue samples and corresponding personal medical records to a nationwide breast cancer research effort. However, given the advances in medical informatics, fifteen years later her tissue samples and medical records may be useful in developing a genetic treatment for male baldness. Should this treatment be prevented because it involves the transfer of personal information from breast cancer to male baldness? This case raises a series of points: firstly, it is not clear if there is a transfer in contexts. Both uses are concerned with, roughly, with human ‘wellbeing’. However, breast cancer research is much more in line with common sense understandings of medicine while male baldness research is much more in line with cosmetic concerns. Secondly, the male baldness treatment is likely to be an extremely lucrative pursuit economically.\textsuperscript{427} Third, the source person and target person are quite distinct: beyond the potential economic benefits, it is unlikely that the female source of the tissue and medical information will stand to receive any great benefit from male baldness research.

My solution is twofold, that the source person should be sought for her consent to the new use. If she is dead, then her family members should be consulted as to whether she would have consented to having it used to research male baldness treatments. In contrast to preventing a pandemic outbreak, given the reasonably low importance of ‘solving’ male baldness, if her wishes cannot be discovered, then her

\textsuperscript{427} §7.6.3 covers the distribution of harms and benefits.
information should not be used. The importance of taking the source person’s interests into account is captured by the dyad.

As mentioned in §2.5.6, the identity/information dyad adds explanatory force to van den Hoven’s account of informational injustice by showing how information changes. Importantly, the dyad adds three explicatory steps between information and injustice. It argues that we need to see information in aggregate. It shows that information in aggregate is of a different form to non-aggregated information – what was once a set of innocuous information is now a revealing and powerful Virtual Identity. Finally, extending from the discussions of §7.4 and §7.5, the dyad has given us the tools to explain just why the changes in information from innocuous to Virtual Identity are morally important.

7.6.3 Fair Distribution Of Returns

A final issue to be covered is how resources arising from personal information ought to be distributed. This operates on the premise that that some people or groups should not profit unreasonably from the use of personal information, and/or that some people or groups should not be unreasonably burdened with harms arising from the use of personal information. The basic idea here is that any harms and benefits arising from personal information use should be distributed in line with good reasons.428

To begin, consider the World Medical Association’s Ethical Principles For Medical Research Involving Human Subjects (World Medical Association, 1964), commonly referred to as the Helsinki Declaration, hereafter, Helsinki. Helsinki states that “[i]n medical practice and in medical research, most interventions involve risks and burdens” and that “[m]edical research is subject to ethical standards that promote respect for all human subjects and protect their health and rights” (Paragraphs 8 and 9 World Medical Association, 1964). Bearing this in mind, consider the various arguments raised in §1.4, §7.4 and §7.5. Generally, if we care about medical information, why not care similarly about all similarly intimate personal information?

We need look at clauses 19 and 30 of Helsinki (World Medical Association, 1964). Clause 19 was introduced in 2000, and addressed the concern of whether research would actually benefit the target communities or not, and

428 In talking of ‘good reasons’ here, I am tying ‘good reasons’ to fair distribution. This tracks to the Rawlsian idea of operating within a veil of ignorance such that we would accept a given distribution in a way that did not unnecessarily burden the least well off, and in a mutually reciprocal way in line with public reason. See (Rawls, 1971, pp. 12, 136-142; Rawls, 1999a; Rawls, 1999b, pp. 129-180).
explicitly requires that research should only be done on a particular population if the fruits of that research could realistically be expected to benefit that particular population. According to the requirement, it would be ethically unacceptable to test a new treatment, for example, on an impoverished population unless there is reason to believe that the treatment will be affordable and will actually become available to that population if the treatment is shown to be effective (Emphases Mine, Selgelid, 2005, p. 66).

Clause 30, introduced in 2004, deals with continuing standards of care that patients should receive after trials have ceased; requiring that “[i]f a new treatment is shown to be superior to the control arm therapy against which it is tested, for example, then all subject-patients should be guaranteed access to the new treatment afterwards” (Emphases Mine, Selgelid, 2005, p. 67). The motivations behind clauses 19 and 30 were to ensure that, given the basic rights that patients and medical research subjects are commonly held to have, and given the vulnerability of these groups to harms arising from interventions and research, they are entitled to some part of the benefits arising from the research. As above, consider the various arguments raised in §1.4, §7.4 and §7.5. Generally, holding like-cases alike, if we care that the harms and benefits arising from medical procedures are distributed fairly, we should care similarly about all similarly intimate personal information.

What the dyad adds to this discussion is a tool to explain just how benefits and harms can arise from information. While it may be a trivial truth to say that ‘information is power’, as has been argued throughout, this may not seem obviously true when applied to innocuous information. The dyad gives us such a way to recognise the benefits and harms of information, in a way that captures innocuous information. Importantly, by urging a focus on source and target people, and spelling out the particular rights and harms that personal information can be involved in, the dyad gives a structure such that we can better recognise when benefits or harms are being distributed unfairly.

7.7 Justifying The Use Of Personal Information: What’s The Point?

§.7.4 – §7.6 advanced a series of moral arguments as to why we should care about personal information. It may be because of a source person having a justified rights claim, that target people are especially vulnerable to personal information or the importance of fair access to primary goods and fair distribution of the harms and benefits of personal information. However each of these arguments came with an ‘other things being equal’ clause. That is, in each situation, there may be some competing
values or purposes that override the individual rights, individual harms or equality concerns. This section looks at how and when something can override a commitment to individual rights, harms or fairness.

7.7.1 The Point So Far

Consider again the example of a highly infective, highly lethal strain of bird flu (Garrett, 2012; Kwek, 2011). In a worst case scenario, it was at one time thought to have the potential to kill approximately 60% of the world’s human population, up to 3 billion people. Central to any preparedness for such a pandemic is an international disease surveillance system, integrated with an effective public health network. The arguments so far have been that individuals have important rights and should not be harmed by use of personal information. At the same time, very few would disagree that that we ought to do a great deal to avoid the deaths of hundreds of millions of people. If an internationally integrated pandemic surveillance network is needed to prevent such a catastrophe, then it would seem that the rights claims of individuals would have to be overridden in this case: if needed, their personal information should be part of surveillance and response measures.

From this, it may seem that the previous discussions have no substantive moral point: we merely pay lip service to individual rights claims or individual harms, but in the end, all we’re simply doing is a cost benefit analysis. However, this overlooks four key points. Firstly, if one is inclined to take a simplistic utilitarian calculus to individual cases we need to include informational harms to individuals in the calculations. Secondly, on a more sophisticated consequentialist reasoning, we need to include the values underpinning the individual rights claims, individual harms and equality considerations into the calculation of the good that we are pursuing. Third, that the rights claims as described in §7.4 were pro tanto claims: it is possible for them to be outweighed, but those claims do not become invalid for any or all uses of that Personal

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429 To repeat a previous footnote’s point, such a high mortality rate was speculative and subsequently was scaled down (Evans, 2012). However, the point remains that such a strain of bird flu was feared to be able to kill hundreds of millions of people, a catastrophe in anyone’s language.

430 (Barnett and Sorenson, 2011; Bell, Weisfuse et al., 2009; Garrett, 1996, 2001; Louie, Acosta et al., 2009; Oshitani, Kamigaki et al., 2008).

431 A similar sort of concern arises in cases of a right to medical confidentiality and threats raised by potential acts of violence (Beauchamp and Childress, 2001a, pp. 415-418), or HIV positive status (Ainslie, 2002).

432 Fritz Allhoff raises a similar problem, should we torture someone to prevent a ticking time bomb going off in a crowded city. He argues that we are justified in overriding a person’s right not to be tortured by reference to a large number of other people’s right not to be killed by the time bomb (Allhoff, 2012).
Finally, there must be some compelling justificatory reasons to override the *pro tanto* claims. I explain these points in turn.

A great deal has been written about the limits of applying a simplistic utilitarian calculus to all moral decisions, and I will not go into the discussions here. In short, in order to respond to various challenges, in order to meet the challenges from rights theorists, a utilitarian would need to follow J. S. Mill in making ‘the good’ a suitably complex thing that includes more than a simple pleasure/pain balance sheet. Instead, as Philip Pettit argues that “[t]he consequentialist who claims to recognise a right must not just behave appropriately. He must behave appropriately, because he reasons appropriately” (Pettit, 1988, p. 48). In the language of recognition respect, §7.4.3, the sophisticated consequentialist must weigh the person’s interests appropriately, and take those interests seriously. This process is more complex than simply maximising pleasure or welfare. This is all in line with what I have been arguing: that a sophisticated consequentialist should take the individuals’ interests into account when dealing with personal information. When using personal information, both the consequentialist and deontologist will conclude that the individual ought to be weighed appropriately and taken seriously (though perhaps for different reasons).

If we are committed to taking rights seriously, even when an individual’s rights can be overridden, on the *pro tanto* approach discussed, the individual still retains the basic rights. Further, the person’s right can only be overridden *as long as it is justified*. On the first point, consider what is at stake in preventing the spread of killer pathogens:

Conflicting values are commonplace in the context of public health, and the context of infectious disease in particular. In the case of epidemic diseases, for example, the measures required for the protection of public health may include surveillance; mandatory vaccination, testing or treatment; and/or social distancing measures such as isolation and quarantine (Selgelid, 2009, p. 196). When focussing on personal information, I assume that most would consider that some surveillance is justified to monitor the spread of infection, despite the potential privacy infringement. In some situations this personal information can lead to deliberate individual harms: for instance, the isolation and quarantine of infectious people. This does not mean, however, that any and all rights violations are now justified. We would

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433 This point was made originally in §1.4 when discussing the notion of rights as *pro tanto*.
434 One such collection is (Glover, 1990).
435 I mean here to refer to Mill’s idea that “It is better to be a human being dissatisfied than a pig satisfied, better to be Socrates dissatisfied than a fool satisfied” (Mill, 1887, p. 301).
436 Note that isolation and quarantine align with my description of deliberate informational harms, §7.5.1: personal information has been used in a way that directly and deliberately results in harm to a target individual.
likely consider an unjustified privacy violation if all their medical records were made publicly available. Likewise, we would consider it totally unreasonable for those under surveillance to be forced to engage in sexually explicit photo-shoots,\footnote{The rights abuses in Abu Ghraib are examples of failures to respect the basic qualities of prisoners.} or to be enrolled into forced labour camps as a result of being infected. The way in which the personal information is used, who has access to it, and for how long, need to be in line with the reasons for outweighing the \textit{pro tanto} rights, and in such a way that the “least restrictive alternative should be used to achieve the public health goal in question” (Emphasis Mine, Selgelid, 2009, p. 195).\footnote{I note here that Selgelid argues that rather than always going for the least restrictive option, other methods such as redistributive taxation may be a better option, all things considered (Selgelid, 2009). I cannot enter into a sustained discussion of his point here, but I think it does not detract from the general point about \textit{pro tanto} claims that I am making here.}

### 7.7.2 Justifying Use Of Personal Information

This brings us to the justificatory element: in order to override the individual rights, and justify the harms, we need to know why that Personal Information is being used. §1.4 stated that ethics is reason giving: some justificatory reason or reasons are needed as to why we should or should not do X. In the case of extreme pandemics, the reason is clear: Personal information is needed to limit the deaths of millions of people. However, even in a fairly clean-cut case like this, basic recognition respect holds that the person whose rights are infringed is owed some justificatory reason as to why their right to privacy or liberty has been outweighed.\footnote{Note giving them reasons is also likely to promote good consequences: simply locking someone up is likely to make them very angry and/or very unhappy. Give them a justificatory reason, and while they will still be angry or unhappy, most reasonable people would be more likely to be more responsive while in quarantine.}

Secondly, and perhaps more importantly, the rights infringement is justified by reference to particular public health goals:\footnote{I have spoken elsewhere on the importance of recognising an institution’s goals, and matching practice to those goals, specifically, the institution of the military (Henschke and Evans, 2013).} If it turns out that the person in quarantine does not have the infectious strain of the virus, or if it turns out that the virus is nowhere near as likely to cause a pandemic, then there is far less justification to keep the person in quarantine. Likewise, their personal information – the medical data collected as part of pandemic surveillance – may no longer needed for the stated purpose. As such, that Virtual Identity should be deleted or destroyed. The basic rule here is that if the justificatory goal ceases to be active, the action ceases to be justified.
As mentioned in §7.6.2, there may be situations where information collected in one context can legitimately change to another context, but a new justification is needed. Consider that as part of pandemic surveillance, Gary’s personal information is accessed and integrated. It comes to light that he has been previously been convicted in England for paedophilia, he goes to South East Asia every six months to visit children’s schools, and on return to Australia always has medical checks for HIV and other sexually transmitted diseases. In this situation, it might be justified to pass this information onto relevant criminal justice authorities. The point here is that because the purpose of surveillance has changed, a new justification is needed to move Gary’s Personal Information into another context. And this must be done with the requisite amount of care given to who has access to Gary’s information, and why.

7.7.3 Where To Now?

Even if the arguments have held so far, a much harder problem arises: so what do we do now? §7.7.2 traded a lot on the idea of hundreds of millions dead vs. the loss of one individual’s rights/harms to an individual. The discussion can be justifiably criticised as being overly simplistic: in part because I myself called for the use of sophisticated ethical theories over simplistic ones in §1.3, and in part because the descriptions here have been simplistic: the discussion has been hundreds of millions vs. one. In practice, very few cases are likely to meet this millions dead figure. And even in the case of pandemics, it is likely that millions of people will be under surveillance. Effective international surveillance networks will require frequent and repeated infringements of basic liberties. In short, is too much being made from this example?

My response is twofold: one of the major points of this chapter and the thesis at large is to draw attention to the role that personal information plays in people’s lives, and the important mutual relation between identity and personal information. At its most basic, this thesis’ aim is to convince people that they ought to consider personal information in dealing with people, that personal information is something that is of special moral concern.

Secondly, this analysis is not expected to solve every issue concerning personal information. A basic answer is that we need to take a moderate pluralist approach that is context sensitive:

A moderate pluralist approach to public health policy would start with the aim to promote utility, liberty and equality as independent legitimate social goals, and the aim to strike a balance or make trade-offs between them in cases of conflict,
without giving absolute priority to any one of these goals in particular (or taking any one of them to be the ‘default value’)…Perhaps the importance, priority or weight that should be given to the promotion of any one of these goals should not be fixed but, rather, context dependent. The importance of equality, for example, should arguably depend not only on the magnitude or degree of inequality, but should also depend on the nature of the inequalities in question (Selgelid, 2009, pp. 199, 200).

This methodology is admittedly complex and must, by necessity, vary from case to case. However a general methodology can be proposed.

Working from a principle of treating like-cases alike, we should, in fact, treat like cases alike and different cases differently. As a general rule of thumb, the more alike cases are, the more they should be treated alike. However, underpinning this is the necessity to ensure that the particulars of each case are thoroughly described, the relevant ethical aspects of each case given, with principled justifications as to why aspects count as ethically relevant. For instance, in situations involving personal information, the relation between identity and personal information would need to be included, with reasons as to why privacy, ownership and recognition claims are legitimate/outweighed/not relevant, to show that harms have been minimised/outweighed/not relevant and people are treated equally and fairly.

Like the uses of cases in law and medicine (Jonsen and Toulmin, 1988, p. 42-46), a complex set of cases would develop through time, to allow a functioning principled methodology to emerge. Like legal case law, the judgements on cases will come with detailed reasoning as to why a given case received a particular decision (DeMarco and Ford, 2006, p. 490). This goes directly to the role of reason in ethics, that passing judgment is not sufficient, justificatory reasons must be given. In addition, as Joseph DeMarco notes, a major limitation with the casuistic method is “its inability to specify the proper role of principles and rules” (DeMarco, 1994, p. 61). Instead of relying on cases alone, the practice need be dynamic, actively developed through mutually causal process between abstract principles and practice. “Principles take meaning and specificity...from practice and rules, while practices and rules are judged by principles” (DeMarco, 1997, p. 297). Ideally, this would promote a stable reflective equilibrium. 441  “Reflective equilibrium is the state of one's beliefs...when ‘principles and judgments coincide.’ When a person’s beliefs are in reflective equilibrium, the

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441 There is not the space to enter into a discussion of reflective equilibrium here. However, the model that I am thinking of is that of a wide reflective equilibrium proposed by Rawls (particularly section 2.5 of Outline Of A Decision Procedure For Ethics), and developed by Norman Daniels. (Daniels, 1979, 1980; Rawls, 1951 See especially §2.5, and Rawls' discussion of defining the class of considered judgments, pp. 181-183; Rawls, 1971, pp. 46-50).
structure of those beliefs, from the particular to the most general, cohere” (Ebertz, 1993, p. 194). Through time, a publicly justified system would develop that not only offers normative guidance as to new cases, but can give explicit justificatory reasoning as to why a given case should be judged in a given way.

As should be clear, an approach such as this that seeks to take into account individual rights, harms and fairness is destined to encounter conflict between values.

What we really need, then, is a...framework of political philosophy that provides a principled way for striking a balance between them in cases of conflict...no well-developed theory for striking such a balance appears to be on offer in mainstream political philosophy or bioethics...Until such a theory is developed, the approach of applied ethics [mentioned] — i.e., the application of existing theories to concrete cases—should not be considered all that promising. if, as I surmise, a large proportion of ethical questions arise because of conflicting values (Selgelid, 2009, p. 199).

While there are ways of resolving some of these value conflicts, such resolutions are likely to be unconvincing in cases of serious ethical dilemmas. This is a serious challenge for any ‘common sense’ morality that tries to develop a principled and guiding moral pluralism. The concluding chapter shows that the technological focus of the thesis, coupled on the identity/information dyad provides some way of stepping around this problem.

7.8 The Jogger Revisited: Tracking The Steps
This chapter was introduced with the description of an example of convergent technologies that produced seemingly innocuous information: websites for sporting enthusiasts. The goals of this chapter have been to make two critical points. In line with the identity/information dyad explicated in Chapter Six, that the information put out into the public, such as the Endomodo jogging website, produces something more than, and qualitatively different to, the innocuous information as it was original publicised. Secondly, that such information is morally important.

Recall from §1.3 and 1.4 that the goal of this thesis was to give a detailed set of explanations as to how certain novel technologies tracked to key moral foundations. The three moral foundations were that people are due respect in virtue of them being people, that we ought to minimise/avoid people’s suffering and finally, that we ought to treat

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442 For instance, Sterba argues that high ranking self-interested reasons take priority over low ranking altruistic reasons and vice versa (Sterba, 2005, p. 20). Similarly, DeMarco argues that “[c]onflict among parts of a system are inevitable. For example, it may be that we can only gain freedom when welfare is reduced. These trade-offs are unfortunate, perhaps even tragic, but in dynamic coherence, neither is given general priority. Instead, we expect circumstances to dominate. A serious loss of freedom is unacceptable given a small gain in welfare, especially under conditions of abundance (DeMarco, 1997, p. 296).

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like-cases alike. This chapter has explicated how a novel set of integrated technologies produce and use information in such a way as to relate to those moral foundations. A set of rights, §7.4, informational harms, §7.5, and distribution issues, §7.6, have been outlined and their relation to personal information has been made explicit. In order to do this, personal information was clarified as information that relates to a person or group in some way. Two complementary ways that such relations between people and information can occur were set out.

To bring this back to the jogging data, it should now be clear that a given jogger can be a source or target of information on the relevant website: they may originally provide the Thin Information to the website, and/or may be the target of particular actions arising from the Virtual Identities that the website constructs: as a result of posting various information about running and sporting equipment, the user might be targeted by an advertising group wanting to sell them new sporting equipment.

While these examples may be banal, consider the privacy, ownership and recognition rights that such a service might infringe: if a user has created a Virtual Identity such that their age, sex, weight, heart-rate, diet, km’s run per day/week/month, social networks and attitudes on a given day are integrated we now have a situation of considerable moral importance. This information, once aggregated, is comparable to a detailed medical history. Assuming that privacy is a substantial right in medical practice, we should also consider the user’s Virtual Identity as affording similar rights to privacy. Likewise, given the tight connection between the user-as-source and the Virtual Identity, the user might have a legitimate property claim over that Virtual Identity. Further, as with the case of medical histories, that Virtual Identity that tracks closely to central traits so basic recognition holds that that Personal Information ought to be weighed appropriately and treated seriously.

The user has also become vulnerable to the five harms described in §7.5. Consider that the user is a political activist. Much like the many cases in the former East Germany, (Funder, 2002) and the former U.S.S.R more widely (Service, 2009a), the Virtual Identity affords harassment by corrupt authorities.\footnote{A counter-argument to this is that this discussion is located within liberal democratic societies. In response, as Cohen argues at length, the US has used and is using convergent technologies and information against particular individuals (Cohen, 2010). The point is that convergent technologies make it much easier for authorities to deliberately misuse personal information in harmful ways.} If it turns out that the user’s former flatmate, a fellow jogger and social media user, is a wanted criminal, the informational technologies afford negligent use, incorrectly labelling the user as a
criminal. Again, following the Haneef case from Australia, while unlikely, this is not an obscure hypothetical. Similarly, consider that the user’s online network included a large group of criminals or political activists, the user’s Virtual Identity could be used in such a way to characterise the user as willingly associating with known anti-social elements. This may be true, a virtue and vice of social media is that they afford relationships to develop with people that we do not know. However, as with the misuse of incomplete information during the Soviet Purges and McCarthyism in the US, incomplete informational harms can be particularly problematic. Such problematic usages of Virtual Identities can lead to significant limitations in equality of opportunity and capacity for the user to develop their life plans in line with their conception of the good. While these harms seem unrealistic, all five harms are compared to actual examples where Virtual Identities have been misused. The point is not to say that jogging websites are necessarily apparatus of corrupt political regimes, but to show that similarly innocuous information has been used in the past as central causal elements in all five types of harm.

Finally, on issues of equality and informational injustices, recall that the Virtual Identity of the user may be comparable to a person’s medical history. Given the use of such Virtual Identities in the past (Cohen, 2010; Nissenbaum, 2009; Solove, 2004) by corporations, it is reasonable to assume that such private entities would similarly seek access to the user’s Virtual Identity. This presents a risk of severe injustice if that Virtual Identity was used to prevent access to basic healthcare. In the US, for example, the suspicion of ‘pre-existing conditions’ can lead to exclusion from healthcare treatments. The analysis of the user’s diet, jogging patterns and heart-rate could retrospectively indicate such a pre-existing condition that results in limiting the user’s healthcare access.

So, on all three counts – rights, harms and equality, we have jogging data representing serious moral concern. Which leaves us with a tension – are all convergent technologies that have the capacity to produce rich enough Virtual Identities to be avoided or outlawed? In tension with this is the recognition that while some technologies might be problematic, certainly many are not necessarily problematic and some, even they do pose some moral hazard, perhaps the goods offered by such technologies are too good to reject? This, I suggest (and hope), is a false tension.

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Through appropriate use and design we should be able to actualise many of the benefits of such technologies, whilst limiting the wrongs, harms and injustices. This claim is explored in the final chapter.
Chapter Eight: In Conclusion

8.0 Conclusions
The main conclusion of this thesis is that personal information matters. There are real moral concerns arising from the ways in which new technologies produce, use and communicate information that relates to people. Underpinning this major conclusion are a series of minor ones. Firstly, the reason why personal information matters is the relation between identity and information. This claim is built on the explication of a series of mutually causal relations in which identity plays a major causal role in information construction, and at the same time, information plays a major causal role in identity formation. Riding on top of these conclusions is the outcome that recognition of such mutually causal relations between identity and information, not only speaks to the moral importance of personal information, but also spells out why and how such information becomes morally important. If we can limit the construction of Virtual Identities, we might be able to limit the moral concerns of the Personal information.

8.1 Summaries
This thesis began by posing a problem of new technologies: that there are convergences across novel technologies that are occurring in part because of the capacity to share information across different disciplines. While such technological advances may be beneficial, they carry with them significant moral hazard. In order to make sense of this feeling of moral hazard, we needed some deep, sustained and principled analysis of the reasons why such technologies were morally problematic.

Chapters Two and Three looked at two existing moral and legal conventions which have typically been used to respond to issues of information use: Privacy and Ownership. The investigation of the descriptions and justifications for privacy brought out two things. There is a problem of seeing privacy in a reductionist manner. Instead, we need to see various conceptions of privacy as integrated and mutually supporting. Secondly, while there are recent pluralistic developments in the discussions of privacy, particularly in response to the technological challenges highlighted, these pluralistic developments lacked an explication of just how informational concerns tracked to moral foundations. Likewise, the exploration of ownership’s descriptions and justifications found that existing conventions were limited in their capacity to respond to information when that information was viewed as disconnected from the people to whom it relates.
In order to fill these moral vacuums, it was suggested that identity could play a significant role. In order to substantiate this claim, a cognitive account of identity was built from discussions of perception and experience. Relations of relative equivalence were offered as a common element of different conceptions of identity. A three part taxonomy of identity elements was proposed, focusing on the individual, recognition of others, and the social context in which identities are formed. These were called Self-Regarding, Other-Regarding and Other/Other-Regarding Identity. In order to give limits to identity, certain basic human capacities and public reason were discussed as providing an internal and external set of constraints for the self. The chapter was completed with an introduction of the idea of a Virtual Identity – a set of information that relates to a given person.

Given the centrality of information to the project, Chapter Six focussed on philosophic analyses of information. Following common discussions in philosophy of information, a set of explanations on information commonly referred to as data that is well formed, meaningful and judged to be true were given. Each of these elements were explored, and information was then looked at as Thin Information, Semantic Information and as a form of communicative exchange. This then allowed information to be seen in practice as a multirealisable construct emerging from an observer’s existing Cognitive Networks.

Following from these analyses of identity and information the two discussions were brought together. We saw that given existing discussions from philosophy of technology, these two different concepts – identity and information – need to be understood in reference to each other. A set of examples were offered that showed how identity and information play mutually causal roles in the construction of the other. This mutually causal relation was suggested to be most accurately described as a dyadic relation. Having recognised the identity/information dyad, a technical discussion was undertaken which spelled out the steps in how the different elements of the identity/information dyad causally relate to each other.

The penultimate chapter then brought out what was meant mean by personal information. Identity and information were related to individuals in two sorts ways, with a Person As A Source and a Person As A Target of information. Having set these relations out, we finally entered into a discussion of just how personal information tracks to the three moral foundations originally identified in Chapter One – respect for people, not causing harm and treating people fairly. The chapter closed off chapter by
discussing the problem of value conflicts and trade-offs. The thesis has taken an
avowedly morally pluralistic line, which leaves a serious problem of just how to
mediate between significant conflicts between the three moral foundations. This
problem, while significant and potentially irresolvable may be sidestepped. The thesis
finishes by giving some indication of how we can sidestep these moral problems.
Importantly, it will show the practical use of the analysis offered so far: the final
conclusion that the identity/information dyad is not only a useful explanatory tool, but it
can be used to resolve some of the issues so far identified.

8.2 Sidestepping The Quagmire: Value Sensitive Design And Virtual Identities
A possible solution to many (though not all) of the problems arising from the
production and use of personal information can be found in the design of the
technology. In order to demonstrate the ethical relevance of innocuous Personal
information, I have focussed on the relations between identity and information. My
diagnosis located a chief moral concern in the creation of Virtual Identities. However,
instead of resolving extremely complicated value conflicts that arise ex post Virtual
Identity creation and use, we can instead aim to design certain information technologies
such that they take identity into account, before the problems arise. If – as this analysis
suggests – many moral problems occur as a result of aggregating personal information,
the solution is to design technologies such that they either limit the creation of Virtual
Identities from innocuous personal information, and/or the technologies disaggregate
the Virtual Identity after it has served its justifiable purpose.

To begin, consider the ‘mutuality principle’ offered by DeMarco. This “guides
us to minimise or eliminate conflict over moral values...for example, we can attempt to
change practices, institutions, and approaches to moral development that stand as
obstacles to the mutual achievement of moral value. Many moral conflicts...are not
natural but arise owing to the construction of variable aspects of social life” (Emphasis
Mine, DeMarco, 1997, p. 297). My focus is on what he says it can do – if we change
practices, institutions and approaches, we can substantially limit conflict cases.
Significant value conflicts, while intractable, might be able to be limited by changing
the likelihood of such conflicts actually arising.

For instance, consider the role of trolley cases in ethics. In a standard trolley
case, a trolley will travel along track one or track two, a person is given the option of
choosing one track or another, both of which result in some undesirable result: typically,
the death(s) of innocent people. Van den Hoven has told a story of what happens when giving trolley cases to engineers. The engineer’s response is to design the trolley or the tracks so with a shut off switch, so that no-one will die (van den Hoven, 2009). The point is that if we can design a system or institution in such a way to prevent dilemmas from occurring, this removes the need for us to choose between differing values.

This goes directly to the idea of value sensitive design, (VSD), in which engineers and designers actively design particular features into the technologies that we use.

If our moral and political discourse on user autonomy, patient centred-ness and citizen centred-ness, our privacy, security is to be more than an empty promise, these values will have to be expressed in the design, architecture and specifications of systems. If we want our information technology - and the use that is made of it – to be just, fair and safe, we must see to it that it inherits our good intentions” (van den Hoven, 2007a, p. 69).

VSD can be understood in a number of ways: one key element of VSD is to show that particular designs import various values into the technology (Friedman, Kahn et al., 2002; Friedman and Nissenbaum, 2007). However, another element is to design technologies such that the moral conflicts are avoided or minimised. Like designing a trolley with shut off switch to prevent hard choices being made, Jeroen van den Hoven argues that we can ‘front-load ethics’ “by means of the pro-active integration of ethical reflection in the stage of design of architectures, requirements, specifications, standards, protocols, incentive structures, and institutional arrangements” (van den Hoven, 2007a, p. 70).

This thesis has focussed on the relation between identity and information to argue that personal information ought to be considered a morally relevant feature of our practices. It has argued that this is especially the case when working with seemingly innocuous personal information. When aggregated, innocuous personal information can produce highly revealing Virtual Identities, that can infringe individual’s rights, can increase their vulnerability to harms and can lead to inequalities and injustices. The identity/information dyad can be used to show why we should care about personal information. Further, the identity/information can also offer guidance as to how to prevent these rights infringements, potential harms and inequalities from arising: if there are serious moral problems arising from the creation of Virtual Identities, then we should limit the occasions when such Virtual Identities are created.

Integrating this idea with VSD, the idea is that technologies that handle personal information should be designed in such a way as to disincentivise the ease at which
Virtual Identities can be created. In cases where it is justified that a Virtual Identity be created – such as in the pandemic surveillance described in §7.7 – if the use is no longer justified, then the Virtual Identity should be destroyed by informational disaggregation. For instance, we are told by our banks not to keep our ATM card and its PIN together. The reason is that the aggregation of the data on the card with our PIN authenticates access to our bank account via confirmation of a Virtual Identity. Likewise, institutions like banks should not co-locate personal information such that Virtual Identities are easily formed or accessed.

Similarly, technologies that handle personal information should be designed in such a way as to make it as hard as possible to aggregate personal information when third party use of that information is not justified. In cases where the use by third parties is justified, the technologies should be designed with identity in mind, such that the Virtual Identity is disaggregated immediately following its justified use. Further, the technologies need to be designed such that only those who are authorised to access the information in aggregate can do so. This sort of design has been a central element to partially anonymised medical databases. Given the amount that can be revealed by aggregated personal information this should be incorporated where-ever possible in non-medical databases.

The U.K. National DNA Database uses DNA samples and profiles to assist in identifying criminals. The indefinite retention of profiles and samples has been recognised as a substantial privacy concern (U.K. Government, 2006). Similarly, the EU has recently considered that people may have a ‘right to be forgotten’ (BBC, 2012). These actions to disaggregate personal information and delete Virtual Identities shows that there is some practical potential to design in the concerns raised here, such that many of the value conflicts are minimised.

Obviously much more needs to be said on VSD and Virtual Identities. The devil truly is in the details. However, those devils need to be identified in the future. The goal of this project was to show why we ought to care about Personal information, and give suggestions about how we ought to respond. The next step is to bring those suggestions into practice.

445 I thank Malcolm Crompton for giving me the original idea that users of personal information should disaggregate personal information after it has served its justified purpose (Crompton, 2011).
446 For instance, double-coded databases assign unique codes to a person’s entry, with two different keys linking the code and the individual keys stored separately (Council for International Organizations of Medical Sciences, 2005). That way, if justified, the right person can access an individual’s entry in a safe, secure and reversible way.
Appendix 1: Glossary Of Terms

Basic Recognition Claim: That we ought to treat personal information with care, because of the information’s importance to the source person, §7.4.3

Cognitive Network: A cognitive network is the set of integrated and interactive thoughts that a person has about the world, §4.3.2

Convergent Technologies: “[T]he synergistic combination of four major “NBIC” (nano-bio-info-cogno) provinces of science and technology” (National Science Foundation and Department Of Commerce, 2003), §1.1

Dyadic Relationship: Built on the idea of mutual causation. There is a particular ‘whole’ which consists in two elements, each of which stands in a causal relation to the other, §6.4

Explanatory Priority: Where one set of people is more interested in one set of analytic tools to explain something, while others will be more interested in another, §6.5

Harm, Broad Micro-Harm: Where a certain group is limited in their opportunities by the constant and persistent use of information, §7.5.4
Harm, Broad Standard: Where a certain group are limited in their opportunities by the constant and persistent use of information, §7.5.4
Harm, Closed Identity: Where devalued Virtual Identities negatively impact the target person’s identity development, §7.5.5
Harm, Deliberate Informational: When people use personal information to deliberately harm others, §7.5.1
Harm, Incomplete Informational: When information is decontextualised and the loss of the intended meaning results in harm to a person, §7.5.3
Harm, Limited Opportunity: When a specific set of information is used to limit the range of opportunity that an individual might have, §7.5.4.
Harm, Narrow Micro-Harm: Where an individual is limited in their opportunities by the constant and persistent use of information, §7.5.4
**Harm, Narrow Standard:** Where an individual is limited in their opportunities by the constant and persistent use of information, §7.5.4

**Harm, Negligent Informational:** When information is constructed that targets an individual or group, but the data is not accurate, resulting in harm to a person, §7.5.2

**Identity, Character:** Concerned with characterising a person, relates to a question of the sort ‘what am I like?’, §4.4.2

**Identity, Essentialised:** When a person is reduced to a narrow set of identity attributes, §4.4.4

Identity, General: ‘X perceives Y to be Z’, written alternately as ‘Identity is who X perceives Y to be’, §4.5.4

**Identity, Group:** Concerned with the context and resulting content of a person’s identity, the social environment that goes into forming a person’s identity, §4.4.3

**Identity, Natural:** Conditions of Numeric and Character Identity, considered when independent of/prior to any observer/observation, §6.5

**Identity, Observer:** The set of relevant qualities that we use to talk about the cognitive agent who is doing the observing. This is the ‘X’ of ‘identity is who X perceives Y to be’, §6.5

**Identity, Other-Regarding:** Arises when a person has thoughts about the representations of another, given as ‘You are who I perceive you to be’, §4.5.2

**Identity, Other/Other-Regarding:** Concerned with how a primary observer, X perceives the construction of identity for a subject, made by a second observer, X* given as ‘You are who I perceive another to perceive you to be’, §4.5.3

**Identity, Phenomenological:** A cognitive agent’s experience of the thing in the world, §6.5

**Identity, Self-Regarding:** Arises when a person has thoughts about the representations of their self, given as ‘I am who I perceive myself to be’, §4.5.1

**Identity, Virtual:** Some information set in the world that calls to mind a person, §4.7, §7.2

**Identity/Information Dyad:** The products and process that arise from the relations between identity and information, §6.6
**Information, Disinformation**: Deliberate act of providing people with untruthful information, §5.5.1

**Information, Incomplete**: When a speaker presents true, well ordered, meaningful data, but this data either does not succeed in meeting the speaker’s actual intention or the speaker’s expressed intention is different to their actual intention, §5.5.1

**Information, Misinformation**: Accidental act of providing people with untruthful information, §5.5.1

**Information, Pseudo**: Ordered meaningful data that is not true, §5.5.1

Information, personal: Information that relates to a person or group of people in some way, §7.2

**Information, Semantic**: the thick concept of information as data, order, meaning and truth judgments, §6.5

**Information, Strong Source Dependent**: When semantic information is strongly dependent on and responsive to a single person or a narrow set of people, §7.2.1

**Information, Thin**: data and order, independent of/prior to an observer’s ascriptions of meaning or truth, §6.5

**Information, Weak Source Dependent**: When semantic information is weakly dependent on and responsive to a single person or a narrow set of people, §7.2.1

**Legitimate Claim**: When a person (or people’s) claim correctly tracks to a relevant moral foundation, §2.3, §3.3, §7.4.

**Ownership Claim**: When a person (or people) make a claim that they have a right to use and limit other’s use of a given tangible or intangible thing, §3.2

**Person As Source**: When a person, as Thing In The World provides the initial Thin Information to the observer and from this Thin Information, Semantic Information is formed, and experienced as a Phenomenological Identity, §7.2.1

**Person As Target**: Where an observer has Semantic Information that targets a person or group of people. The more focussed to a particular person or people, the narrower the target information is, and the more people captured by a given data set, the broader the target information is. §7.2.2
**Privacy Claim:** Some claim over a space – physical or informational – in which an individual is typically recognised as seeking to exclude others, §2.3

**Relation Of Relative Equivalence:** An evaluation that there is some equivalence (or sameness, similarity, commonality etc.) between two (or more) things, common element of different identity concepts, §4.4.5, §6.5

**Relation Of Difference:** An evaluation that there is some relevant difference between two (or more) things, common element of data, §5.2, §6.5

**Thing In The World:** Something that exists independently of an observer, can be understood in terms of identity or information, §6.5

**Thing As Perceived:** An observer’s experience of the thing in the world, §6.5

**Thing Perceiving:** An observer experiencing, or capable of experiencing, some Thing In The World, §6.5

**Value Sensitive Design:** The design methodology that seeks to recognise, and design for, a given set of values, §8.2
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